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**The enforcement of Article 102 TFEU in online markets
online platforms, Big Data and the intersection between competition, data protection
and consumer protection law**

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**The Enforcement of Article 102 TFEU in Online
Markets: Online Platforms, Big Data and the
Intersection between Competition, Data Protection
and Consumer Protection Law**

José Tomás Llanos Morales

THESIS SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY OF LAW

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Acknowledgments

*‘Caminante son tus huellas el camino... y nada más;
caminante, no hay camino... se hace camino al andar.’*

Antonio Machado

*‘Wayfarer, your footprints are the only path... and nothing else;
wayfarer, there is no path... the path is made as you walk.’*

Antonio Machado

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Table of Abbreviations

AG	Advocate General
API	Application Programming Interface
ARPU	Average Revenue Per User
A29WP	Article 29 Working Party
CJEU	Court of Justice of the European Union
CMA	Competition and Markets Authority
CNIL	Commission Nationale de L'informatique et des Libérés
CPC	Cost-Per-Click
CPU	Central Processing Unit
CTR	Click-Through-Rate
DG COMP	Directorate-General for Competition
DOJ	Department of Justice
DPA	Data Protection Authority
DPD	Data Protection Directive
ECtHR	European Court of Human Rights

EDPS	European Data Protection Supervisor
EEA	European Economic Area
EU	European Union
FTC	Federal Trade Commission
GC	General Court
GDPR	General Data Protection Regulation
HEA	Holistic Enforcement Approach
ICT	Information and Communications Technology
ICO	Information Commissioner's Office
IoT	Internet of Things
IPO	Initial Public Offering
IPR	Intellectual Property Right
JV	Joint Venture
KFTC	Korean Federal Trade Commission
M&A	Mergers and Acquisitions
MADA	Mobile Application Distribution Agreement
MNO	Mobile Network Operator

MSP	Multi Sided Platform
NCA	National Competition Authority
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OFT	Office of Fair Trading
OS	Operating System
OTT	Over-the-Top
PND	Portable Navigation Device
R&D	Research and Development
SERP	Search Engine Result Pages
SME	Small and Medium-sized Enterprises
SSNDQ	Small but Significant and Non-transitory Decrease in Quality
SSNIP	Small but Significant and Non-transitory Increase in Price
TEC	Treaty establishing the European Community
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UK	United Kingdom

US United States

US United States Dollars

Abstract

The majority of online products and services, such as search engines, social networks, digital maps and electronic communications apps, are offered free of charge. But there is a catch. In exchange for the use of their ‘free’ services, online firms collect their users’ personal data and process it for myriad of commercial purposes. The ability of firms to collect vast amounts of data and process them through sophisticated algorithms to reveal patterns, trends and associations (Big Data) has opened new routes for dominant firms to abuse their market power, and at the same time, has given rise to pressing online privacy and consumer protection issues which, whilst falling outside the scope of competition law, have nevertheless an impact on the competitive process in online markets.

The aim of this thesis is to uphold the importance of Article 102 TFEU enforcement for the healthy operation of competition in online markets. To this effect, it explores recent proposals for the passing of a new sector-specific regulation applicable to online platforms and for lax antitrust enforcement in the digital economy, exposes their flaws, and demonstrates that the enforcement of Article 102 TFEU can be flexible enough to account for the challenges posed by online markets. The key is to identify the features that differentiate online competition from competition as traditionally conceived in competition analysis, and to determine how such differences translate into new emphases, tests and approaches. In addition, acknowledging the interrelated nature of competition, data protection and consumer protection issues that arise from data-driven competition, this thesis proposes the creation of a new category of abuse of dominance based on infringements of data protection and consumer protection law, when such infringements are linked to the infringer’s dominant position, adversely affect innovation and choice, and/or derive in the exploitation of consumers.

Introduction

In this day and age, most people have used a ‘free’ online service such as a search engine, a digital map, a social network or an electronic communications app. Online firms, however, are not charity institutions, as in exchange for the use of their free services they collect and process their users’ data for commercial purposes. Data-driven competition has expanded the ways in which dominant firms may abuse their market power, and has also given rise to pressing privacy/data protection¹ and consumer protection issues which, whilst falling outside the scope of competition law, may nevertheless have an impact on competition. This thesis deals with abuse of dominance (Article 102 TFEU) in online markets.² In particular, this thesis upholds the importance of Article 102 TFEU enforcement for the healthy operation of competition in the digital economy. In addition, this thesis proposes a law enforcement solution for the interrelated concerns and regulatory failures that arise from data-driven competition.

The Internet has exponentially expanded the potential for economic activity, leading to a flow of new innovative products, services and business models. Consumers can use computers or other devices with access to the Internet to look up a specific location, get in contact with friends and even arrange a taxi ride. Information about products and services can be easily reached, with a greater level of detail than ever before. Ubiquitous Internet access and network services with widespread coverage have dramatically reduced transaction, search and distribution costs, to the benefit of consumers.

However, concerns have been raised with regard to the seeming dominant position of some undertakings in online markets. For example, the US Federal Trade Commission (the “FTC”) launched³ and subsequently closed⁴ an investigation into Google’s alleged monopolisation practices, whilst the European Commission (the “Commission”) recently

¹ The scope of the rights to privacy and data protection is different, although there is an important overlap. See Chapter 5 footnote 6. In this thesis, privacy and data protection will have the same meaning.

² In this thesis, the terms ‘online’ and ‘digital’ are used interchangeably.

³ Jessica Guynn and Jim Puzzanghera, ‘FTC Launches Investigation of Google’ (2011) *Los Angeles Times* <<http://articles.latimes.com/2011/jun/25/business/la-fi-google-ftc-20110625>>.

⁴ FTC, ‘Statement of the Federal Trade Commission Regarding Google’s Search Practices - In the Matter of Google Inc. FTC File Number 111-0163’ (2013) <https://www.ftc.gov/system/files/documents/public_statements/295971/130103googlesearchstmtofcomm.pdf>.

imposed a €2.42 billion fine on Google for abusing its dominance as search engine,⁵ and continues investigating Google's conduct in relation to its AdSense service⁶ and Android OS.⁷ Some Internet services such as YouTube, Facebook Amazon and eBay are by all metrics the undisputed leaders of their business segments, and high concentration in online markets is perceived as a sign of weak competition. The main concern voiced in connection with these undertakings is that, by gaining and/or maintaining market power by means of anticompetitive practices, they may dominate or threaten to dominate online markets, exploit consumers and prevent the introduction of new innovative services.

Some argue that such concern is largely overstated, since if any firm attains a dominant position, such position is likely to be transitory, as market power in high-tech industries is essentially fleeting, permanently disciplined by the threat of a firm launching a new 'killer' product that conquers the entirety of the market.⁸ Moreover, most online services are free to consumers, for which reason there cannot be any consumer harm.⁹ Intervention on the part of competition authorities is likely to be harmful, since it chills innovation incentives to the detriment of consumers.¹⁰ Others consider that competition law has failed to control the market power enjoyed by the leaders of the most popular online industries.¹¹ To address the perceived deficiencies affecting online markets, they plea for the passing of a new sector-specific regulation to be applied in conjunction with competition law.¹² Finally, others contend that competition law is sufficiently flexible to adapt to the specific challenges posed by digital markets, and that it remains the best method to ensure that

⁵ European Commission, 'Press Release - Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service' (2017) <http://europa.eu/rapid/press-release_IP-17-1784_en.htm>.

⁶ European Commission, 'Press Release - Antitrust: Commission Takes Further Steps in Investigations Alleging Google's Comparison Shopping and Advertising-Related Practices Breach EU Rules' (2016) <http://europa.eu/rapid/press-release_IP-16-2532_en.htm>.

⁷ European Commission, 'Press Release - Antitrust: Commission Sends Statement of Objections to Google on Android Operating System and Applications' (2016) <http://europa.eu/rapid/press-release_IP-16-1492_en.htm>.

⁸ J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5 *Journal of Competition Law and Economics* 581.

⁹ Robert H Bork, 'Antitrust and Google' (2012) *Hudson Institute* <<https://www.hudson.org/research/8861-antitrust-and-google>>.

¹⁰ Geoffrey A Manne and Joshua D Wright, 'Innovation and the Limits of Antitrust' (2010) 6 *Journal of Competition Law and Economics* 153.

¹¹ Sigmar Gabriel and Emmanuel Macron, 'Letter "Digital Market Strategy EM-SG" Addressed to European Commission Vice President Andrus Ansip' (2015) <https://www.contexte.com/medias/pdf/medias-documents/2015/04/Letter_Digital_Strategy_EM-SG_-_A._ANSIP-2.pdf>.

¹² Duncan Robinson, 'EU to Probe Popular US Sites over Data Use and Search' (2015) *Financial Times* <<https://www.ft.com/content/9ff2c0b4-ef13-11e4-a6d2-00144feab7de>>.

competition is not distorted by dominant firms.¹³ These diverging views encompass the debate on what role competition policy on Article 102 TFEU should play in online markets.

To settle this debate, two recent phenomena must be analysed: the rise of platforms and the collection of user data for commercial purposes. The leaders of online industries are organised as platforms, that is, “an undertaking operating in two- (or multi-) sided markets, which uses the Internet to enable interactions between two or more distinct but interdependent groups of users so as to generate value for at least one of the groups”.¹⁴ Platforms benefit from network effects, which if strong enough, may lead to ‘tipped’ markets. In addition, the main business proposition of some of the most popular online platforms (think of Google and Facebook) is the provision of free services on one side of the market and paid advertising services on another side. To provide these services, online platforms need vast amounts of data. The more data is available to be processed, the higher the chances that unexpected and potentially valuable correlations, predictions and information can be obtained. In this context, online platforms collect data in the form of, for example, search queries, browsing behaviour or social network profiles, to improve the quality of both the free and paid services, and also to develop new ones. The ability of a firm to collect extremely large amounts of data and process them through sophisticated algorithms to reveal patterns, trends and associations (Big Data)¹⁵ adds a new dimension of market power which deserves special attention on the part of competition authorities.

Chapter 1 discusses the main opposite views on the debate on the proper role of competition policy in online markets. Then, Chapter 2 explains the organisation of their market leaders as platforms and the dynamics of data-driven competition. Building on these two Chapters, Chapter 3 addresses market definition and dominance assessments in digital markets. It defines the product markets for search engines, social networks and e-commerce platforms, and assesses whether Google, Facebook and eBay hold a dominant position therein. It also identifies data-driven abusive conduct in which dominant

¹³ House of Lords, ‘Online Platforms and the Digital Single Market’ (2016) 52.

¹⁴ European Commission, ‘Public Consultation on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy’ (2015) *Digital Single Market* 5 <<https://ec.europa.eu/digital-single-market/en/news/public-consultation-regulatory-environment-platforms-online-intermediaries-data-and-cloud>>.

¹⁵ See Chapter 2 Section II.2 for the characteristics of Big Data and its relationship with Big Analytics.

platforms can engage. The analyses and conclusions contained in these three Chapters settle the debate above in a conclusive manner.

The concerns arising from competition in online markets, however, are not confined to competition law. In particular, problems stem from the fact that most of the data online platforms collect is ‘personal data’,¹⁶ the protection of which is enshrined in the Charter of Fundamental Rights of the European Union (the “Charter”).¹⁷ Competition in online markets creates tension between undertakings’ incentives and individuals’ right to data protection. On the one hand, undertakings strive to gather and process as much data as possible to gain a competitive advantage; on the other hand, efforts to gain such an advantage result in widespread surveillance and the violation of individuals’ data protection rights. Free online services have become the norm, but ‘free’ comes with a cost.

In view of the interrelated nature of privacy harms and data-driven competition, some approaches have been articulated to address privacy concerns in competition analysis, including the definition of markets for data, the incorporation of data protection considerations in the notion of consumer welfare (i.e. the incorporation of fundamental rights into competition substantive analyses), and conceiving data protection as a non-price parameter of competition. On account of the concerning tendencies affecting online marketplaces and the need for a solution, such theories deserve close examination. Chapter 4 explores these theories, and answers the question of whether their implementation would be sound competition policy.

Competition law does not exist in a vacuum; rather, it belongs to the EU legal order. In this legal order, multiple fields of law coexist, and regulatory failures may arise at different levels before competition enforcement. These regulatory failures may have an impact on the competitive process. Numerous consumer surveys show that many consumers (60-70%) are concerned about the protection of their personal data,¹⁸ and consequently would be interested in services that are more ‘privacy-friendly’. However, market forces have failed to satisfy the latent demand for those services, partly due to a combination of data

¹⁶ Any information relating to an identified or identifiable natural person. See Article 4(1) GDPR.

¹⁷ Charter of Fundamental Rights of the European Union [2010] OJ C 83/02.

¹⁸ See Chapter 4 Section II.2.3, text accompanying footnotes 76 to 82.

protection and consumer protection regulatory failures, and partly as a result of the unlawful conduct of some dominant platforms.

The most common legal basis to which online firms resort to process personal data is unambiguous, specific and informed consent on the part of consumers. In practice, for that consent to arise, data protection law places upon consumers the highly cumbersome task of carefully reading and understanding the privacy policies of all the online services they use in order to make a decision as to whether the expected benefits arising from the use of the service outweigh any possible privacy harms they may envisage. Yet, consumers are placed at a disadvantage to carry out this assessment prior to giving their consent. To begin with, there is a significant informational gap between undertakings and consumers: whilst firms know everything about their data collection and processing practices and the value they can derive from data, some consumers struggle to understand even what a privacy policy is. This informational gap is further reinforced by the drafting technique commonly used in privacy policies. These policies tend to be lengthy, vague and rife with legal jargon. Additionally, consumers have bounded rationality and commonly make their decisions based on heuristics, simplified models and the way choices are framed. Facing these obstacles, most consumers decide not to read the privacy policies of the online services they use, and proceed to simply ‘tick the box’. Other consumers attempt to understand the implications of their online activities, but fail to overcome the informational gap and their bounded rationality. Finally, those few consumers who manage to defeat all of the aforementioned obstacles realise that there are no viable choices to protect their online privacy, and ultimately become resigned to ubiquitous data collection. As a result, there are no incentives to compete on the basis of data protection, in spite of the latent demand for ‘privacy-friendly’ services.

Dominant firms may avail themselves of the regulatory failures above and further violate the data protection and consumer protection laws to reinforce their position, prevent the introduction of privacy-friendly services capable of threatening their data-driven business model, and exploit consumers. The question that follows is whether and how a new category of abuse of dominance based on infringements of data protection and consumer protection law may be prosecuted. Chapter 5 answers this question, proposing a law enforcement approach that aims to enhance the coherence of the EU legal system as a whole.

CHAPTER 1. Diverging Views on the Role of Article 102 TFEU in the Digital Economy

Introduction

The US DOJ's monopolisation lawsuit against Microsoft in the late 90s triggered a debate on the role of antitrust in high-technology markets.¹ Recent technological developments and the popularity of many online products and services have reignited this debate, now with a particular focus on digital markets. In this debate, three main positions can be identified.

Some believe that competition authorities should refrain from intervening in digital markets. Antitrust intervention, which has historically aimed at achieving static efficiencies,² is likely to chill the very innovation that characterises these markets, to the detriment of consumers in the long run.³ In addition, in view of online platforms' inherent complexities and innovative business practices, competition agencies are very likely to mistakenly condemn procompetitive behaviour (i.e. false positive or overenforcement error).⁴ Since the cost of such errors will be higher than the costs of mistaken acquittals of anticompetitive behaviour (false negatives or underenforcement errors), because challenging online platforms' innovative products or services will likely chill innovation and therefore inflict significant long-term harm upon economic welfare, whereas underenforcement costs will be probably lower, only leading to short-term harm which can be corrected by market forces in the form of competition, innovation and entry by

¹ See for example Robert Pitofsky, 'Antitrust Analysis in High-Tech Industries: A 19th Century Discipline Addresses 21st Century Problems' (1999) <<https://www.ftc.gov/public-statements/1999/02/antitrust-analysis-high-tech-industries-19th-century-discipline-addresses>>; Daniel Rubinfeld, 'Competition, Innovation, And Antitrust Enforcement In Dynamic Network Industries' (1998) <<https://www.justice.gov/atr/speech/competition-innovation-and-antitrust-enforcement-dynamic-network-industries>>.

² David S Evans and Keith N Hylton, 'The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust' (2008) 4 Competition Policy International 203, 231–233. For an explanation of the different types of efficiencies see below footnote 46.

³ David J Teece and Mary Coleman, 'The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries' (1998) 43 Antitrust Bull. 801, 809.

⁴ Geoffrey A Manne and Joshua D Wright, 'Google and the Limits of Antitrust: The Case against the Antitrust Case against Google' (2010) 34 Harvard Journal of Law & Public Policy 171, 180.

other firms, it is sound competition policy in high-technology markets to err on the side of underenforcement⁵ (the “hands-off approach”).

At the other end of the spectrum, others are of the opinion that competition law is not sufficient to tackle the challenges posed by the advent of platforms and the digital economy; rather, regulation is required to ensure a system of undistorted competition. For example, the European Parliament recently considered that the “Commission should act to create and ensure a legislative and legally certain environment conducive to encouraging creativity and innovation”, calling on the same “to consider proposals aimed at unbundling search engines from other commercial services as one potential long-term means of achieving the aforementioned aims”.⁶ Similarly, in a joint letter sent by German minister Sigmar Gabriel and then French minister Emmanuel Macron to European Commission Vice President Andrus Ansip, the ministers stressed the need for a “regulatory framework ensuring a fair competition between all digital players”, as well as the “need to regulate essential digital platforms”⁷ (the “regulatory approach”).

Finally, some believe that competition law and policy are the right tools to address market power issues and foster competition in innovation-driven, digital industries. Although digitalisation poses some difficult challenges, competition law can be applied in a sufficiently flexible manner to allow competition enforcers to intervene effectively and restore competition.⁸

Section I of this Chapter contains a brief description of the main characteristics of digital markets. This description is necessary, firstly, to provide some context, and secondly, because supporters of both the regulatory approach and the hands-off approach base their arguments on one or more of said characteristics. Subsequently, Section II discusses and rebuts the arguments put forward by the proponents of the regulatory approach. It is submitted that *ex-ante* regulation in online markets is bound to do more harm than good, as it would likely entail a ‘one-size-fits-all’ approach incapable of accounting for the

⁵ *ibid* 185–186.

⁶ European Parliament Resolution of 27 November 2014 on Supporting Consumer Rights in the Digital Single Market 2014/2973(RSP).

⁷ Sigmar Gabriel and Emmanuel Macron, ‘Letter “Digital Market Strategy EM-SG” Addressed to European Commission Vice President Andrus Ansip’ (2015) <https://www.contexte.com/medias/pdf/medias-documents/2015/04/Letter_Digital_Strategy_EM-SG_-_A._ANSIP-2.pdf>.

⁸ “It was undisputed at the hearings that existing competition laws are sufficiently flexible and nuanced to be applied in the digital economy.” OECD, ‘Hearings: The Digital Economy’ (2013) DAF/COMP(2012)22, 7.

variety of business models pursued by different platforms, and as such it would be likely to deter innovation, to the detriment of consumers. Then, Section III discusses and rebuts the arguments posited by the proponents of the hands-off approach. It argues that the Schumpeterian vision of competition just tells one part of the story, as modern economic literature and empirical research have proven that competition is a significant driver of innovation. It also contends that the argument advancing laissez-faire in digital industries based on the higher social costs arising from overenforcement errors relative to underenforcement errors is misplaced, as the error-cost framework relies on assumptions that are not met in digital markets. Lastly, some conclusions are presented.

I. Digital Markets and their Main Characteristics

Digital markets (also referred to as the ‘digital economy’⁹) can be loosely described as those that focus on digital technologies to trade or supply digital goods and services.¹⁰ Accordingly, they comprise markets for products and services as diverse as operating systems (OS) (for example, iOS), applications (or ‘apps’) for mobile devices (such as Google Maps), app stores that distribute such apps (for example, the AppStore), online marketplaces (such as eBay), video-sharing portals (for example, YouTube), search engines (such as Google) and social networks (for example, Facebook). Digital markets commonly have all or most of the following features:

Research and Development and Intellectual Property: High-tech industries in general are characterised by “a competitive process dominated by efforts to create intellectual property through R&D, which often results in rapid and disruptive technological change”¹¹. Investments in R&D are essentially costly, risky and uncertain,¹² and the majority of such efforts prove unsuccessful. Intellectual property protection, copyrights and patents provide limited monopoly rights over technical assets which are essential for the development of new products or services, or which can be withheld to prevent

⁹ *ibid* 5.

¹⁰ *ibid*.

¹¹ David S Evans and Richard Schmalensee, ‘Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries’ in Adam B Jaffe, Josh Lerner and Scott Stern (eds), *Innovation Policy and the Economy Volume 2* (MIT Press 2001) 3.

¹² J Gregory Sidak and David J Teece, ‘Dynamic Competition in Antitrust Law’ (2009) 5 *Journal of Competition Law and Economics* 581, 592.

competitors from pursuing certain product development paths. At the same time, the prospect of market power serves as the incentive for firms to undertake risks, produce innovation and generate dynamic efficiencies.¹³

Network Effects (or Network Externalities): Network effects take place when the value to a buyer of an extra unit is higher when more units are sold, everything else being equal.¹⁴ Network effects can be direct, where increasing the number of users of a good in turn increases the value of the good to individual users (e.g. telephone networks), or indirect, where the increase in the value of the good is driven by the number and variety of complementary products that will be produced, which in turn increases with the number of users of the underlying product.¹⁵

High fixed/sunk costs, and low marginal costs: Some digital industries demand great investments, whether in the form of R&D or by establishing a physical or virtual network to develop and deliver their products. But after the initial investment, it is cheap to produce additional units: new software might cost an astonishing amount of money to develop, but once the original code has been written, the cost of making an additional copy is negligible.¹⁶

Rapid pace of Innovation and Technical complexity: The explosion in computing power has shortened the time required to develop new products or copy the competitors' products. "Moore's Law" is commonly used to depict the ever-increasing fast pace of change: the power of a silicon chip doubles every eighteen to twenty-four months, thereby quickening the rate of technological advances.¹⁷ Moreover, in fast-changing markets, the speed of technological change brings about great uncertainty as to possible market outcomes. Uncertainty will revolve around issues such as which products are in or out of the market, which products converge over time, the possible length of product lifecycles and the path of technology.

¹³ Thomas O Barnett, 'Maximizing Welfare Through Technological Innovation' (2007) 15 Geo. Mason L. Rev. 1191, 1201.

¹⁴ Nicholas Economides, 'Antitrust Issues in Network Industries' in Ioannis Kokkoris and Ioannis Lianos (eds.), *The Reform of EC Competition Law - New Challenges* (Kluwer Law International 2010) 345.

¹⁵ Network effects are explained in detail in Chapter 2 Section I.3.1.

¹⁶ Michael Katz and Carl Shapiro, 'Antitrust in Software Markets', in Jeffrey Eisenach and Thomas Lenard (eds.), *Competition, Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace* (Boston: Kluwer Academic Publishers 1999) 34–35.

¹⁷ Thomas A Piraino Jr, 'A Proposed Antitrust Approach to High Technology Competition' (2002) 44 Wm. & Mary L. Rev. 65, 74.

(Multisided) Online (or Digital) platforms: Online platforms are essentially ‘matchmakers’ that allow for the creation of value for one or more groups of users that would not be created otherwise were it not for the platform.¹⁸ The most successful businesses on the Internet such as search engines, social networks and online marketplaces are online platforms.¹⁹

Competition *for* the Market (rather than *in* the market): In dynamic industries generally, competition is said to be best depicted as a race to develop new products or replacing old technologies through drastic innovations. Victory in one race leads to an undisputed leadership position in one or several product markets (winner-takes-all or winner-takes-most competition). However, winners cannot lay back and relax, quietly enjoying the rewards of victory. Winners must keep innovating continuously and incessantly; otherwise, they may be overtaken by the next successful innovative product. Thus, a series of consecutive wins by the same undertaking, and its corresponding high market share and leadership position in a product market, do not necessarily entail that competition is weak. On the contrary, there is fierce competition to become the dominant firm, especially at the early stages of a given market’s existence. Innovation competition leads to “paradigm shifts”, with new products and services becoming the “next thing”, displacing the old ones.²⁰ This dynamic has led some to contend that:

“the information economy is populated by temporary, or fragile monopolies. Hardware and software firms vie for dominance, knowing that today’s leading technology or architecture will, more likely than not, be toppled in short order by an upstart with superior technology”.²¹

In contrast to mature industries, where competition is *in* the market and entrants gain market share gradually by means of cutting prices and/or expanding output, undertakings compete *for* the market in digital markets through intensive R&D and innovation.

¹⁸ See generally David S Evans and Richard Schmalensee, *The Matchmakers: The New Economics of Multisided Platforms* (Harvard Business Review Press 2016).

¹⁹ Online platforms are analysed in detail Chapter 2 Section I.

²⁰ Teece and Coleman (n 3) 804.

²¹ Carl Shapiro and Hal Varian, *Information Rules: A Strategic Guide to the Network Economy* (Harvard Business School Press 1999) 173.

II. The Regulatory Approach

1. Pro-regulation Arguments

The Commission published in May 2015 its “Digital Single Market Strategy for Europe”.²² In such document, the Commission noted:

“Some online platforms have evolved to become players competing in many sectors of the economy, and the way they use their market power raises a number of issues that warrant further analysis beyond the application of competition law in specific cases.”²³

Subsequently, in September 2015, the Commission launched a “Public consultation on the regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy”.²⁴ The Commission’s enquiry focused on the question of whether new regulation for online platforms should be passed in view of the perceived challenges they pose. Sharing the Commission’s sentiment, Ofcom argued:

“The scale and impact on the European economy of some of the largest operators mentioned – such as Google, Facebook, eBay, or Amazon – is clearly significant. It is appropriate and timely to consider whether the current competition rules and general regulatory frameworks are adequate, and whether additional or different regulation may be needed.”²⁵

Within this context, voices have been raised in the sense that a new sector-specific regulation is needed to address the challenges posed by the platforms which dominate the digital economy. In particular, it has been argued that (i) the growing power of some digital platforms warrants a regulatory framework for “essential digital platforms”, which should ensure that edge providers have open access to all end-users;²⁶ (ii) all forms of discrimination by online platforms against partners and users should be made unlawful,

²² European Commission, ‘Communication from the Commission, A Digital Single Market Strategy for Europe’ (2015) <<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>>.

²³ *ibid* 11.

²⁴ European Commission, ‘Public Consultation on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy’ (2015) *Digital Single Market* <<https://ec.europa.eu/digital-single-market/en/news/public-consultation-regulatory-environment-platforms-online-intermediaries-data-and-cloud>>.

²⁵ House of Lords, ‘Online Platforms and the Digital Single Market’ (2016) 14.

²⁶ Sigmar Gabriel and Emmanuel Macron (n 7) 2.

especially with regard to access to content, for which purposes the hosting and publishing functions should be separated;²⁷ (iii) a principle of “platform neutrality” should be introduced, whereby platforms would be banned from making abrupt, discriminatory or opaque changes to the parameters for accessing their markets (such as general and technical conditions, algorithms or APIs);²⁸ and (iv) end-users should have the possibility to run applications and services of their choice on essential platforms.²⁹

The proposals outlined above advance some kind of fair and non-discriminatory access to “essential platforms”, motivated by the perception that anticompetitive restrictions to access to platforms, as well as other anticompetitive practices in which said platforms engage, cannot be adequately dealt with and punished by competition law. The question that follows is whether specific *ex-ante* regulation, in addition to competition law, to force access to “essential digital platforms” is necessary or at least advisable.

2. Arguments against *ex-ante* Regulation

The regulatory approach has the advantage of being both clear and predictable, yielding more certainty to incumbents and competitors. Competition law, conversely, requires always an assessment of the specificities of a particular case. Therefore, the application of competition law is normally more precise and accurate. However, competition proceedings take time, entailing a risk of large delays in the imposition of remedies or measures, to the detriment of competition.³⁰

Nonetheless, regulatory proposals must be assessed with caution, especially when they target disruptive competition and are the result of growing appeals from incumbents. Attempts to use regulatory restraints to raise rivals’ costs and distort competition are likely to be more harmful than anticompetitive actions deployed by private parties, as such

²⁷ French National Digital Council, ‘Platform Neutrality - Building an Open and Sustainable Digital Environment’ (2014) 21 <https://cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality_VA.pdf>.

²⁸ *ibid* 5.

²⁹ Sigmar Gabriel and Emmanuel Macron (n 7) 2.

³⁰ Anne-Kathrin Baran, Philipp Eckhardt, Iris Hohmann, Matthias Kullas and Bert Van Roosebeke, ‘Competition Challenges in the Consumer Internet Industry - How to Ensure Fair Competition in the EU’ (2016) cepStudy 35 <http://www.cep.eu/Studien/Consumer_Internet_Industry/CII_Study.pdf>.

attempts have no offsetting procompetitive virtues, and if successful, they have long-lasting effects that cannot be corrected by market forces.³¹

Therefore, it is safe to contend that within the context of disruptive forms of competition through new technologies or business models, regulatory efforts that have the effect of benefiting incumbents should be seen with scepticism.³² Take the example of Uber. Through an app installed in mobile devices, Uber allows consumers to request, and drivers to accept, car rides from a pickup location to a determined destination. Solving a transaction and coordination problem for drivers and consumers, Uber has contributed to consumer welfare significantly, reducing waiting times and improving convenience for users, and allowing drivers with idle capacity to engage in a lucrative activity. However, taxicab operators across the world³³ have strongly opposed to Uber and other companies offering transport services through smartphone apps, with some proposing laws to regulate them.³⁴ Such proposals are likely to protect incumbent taxicab operators from the disruptive competition brought about by undertakings offering transport apps, to the detriment of consumers.

Relatedly, telecom operators, which are subject to *ex-ante* regulation, have been particularly vocal about the need of an *ex-ante* regulation applicable to what they call Over the Top (OTT) operators, which rely on their infrastructure to deploy new services and generate value (such as Google or Facebook).³⁵ This is probably motivated by the fact that some online platforms offer services, such as consumer communications services (for example, Facebook Messenger, WhatsApp), that compete with services provided by telecom operators (such as SMS). For instance, Carlos López Blanco, Telefonica's head of public and regulatory affairs, advanced in an interview Telefonica's Digital Manifesto, a set of ten recommendations aimed at "establishing the same rules for the same digital services",

³¹ Joshua Wright, 'Regulation in High-Tech Markets: Public Choice, Regulatory Capture, and the FTC' (2015) 7 <https://www.ftc.gov/system/files/documents/public_statements/634631/150402clemson.pdf>.

³² *ibid.*

³³ 'Uber Protests and Legal Actions', *Wikipedia* (2017)

<https://en.wikipedia.org/w/index.php?title=Uber_protests_and_legal_actions&oldid=779790504>.

³⁴ Dan Adams, 'Baker Proposes Law to Regulate Uber, Lyft, Other Ride-Sharing Services' (2015)

BostonGlobe.com <<https://www.bostonglobe.com/business/2015/04/24/baker-proposes-law-regulate-uber-lyft-other-ride-sharing-services/qIrS2IDNs0WEIrtbNxj60I/story.html>>.

³⁵ Alain Strowel and Wouter Vergote, 'Digital Platforms: To Regulate or Not to Regulate?' (2016) 11

<http://ec.europa.eu/information_society/newsroom/image/document/2016-7/uclouvain_et_universit_saint_louis_14044.pdf>.

which in turn means “opening up mobile operating systems and app stores.”³⁶ The beneficial effects on consumer welfare of such proposals are ambiguous, but it is easy to see how they could benefit telecom incumbents.

In addition, considerations of innovation and its inherent benefits should be given appropriate weight in the regulatory debate. In the “Digital Single Market Strategy for Europe”, the European Commission noted:

“[P]latforms have proven to be innovators in the digital economy, helping smaller businesses to move online and reach new markets. New platforms in mobility services, tourism, music, audiovisual, education, finance, accommodation and recruitment have rapidly and profoundly challenged traditional business models and have grown exponentially. The rise of the sharing economy also offers opportunities for increased efficiency, growth and jobs, through improved consumer choice [...]”³⁷

The benefits online platforms have brought about should not be taken for granted. Innovation is inherently costly and risky.³⁸ The administrative burden arising from *ex-ante* regulation applicable to online platforms is likely to add another layer of difficulty to successful innovations, thereby reducing innovation’s pace and ensuing benefits. This sentiment is shared by the UK and other member states:

“we should avoid introducing legislation that might act as a barrier to the development of new digital business models and create obstacles to entry and growth in the European digital market. Such legislation might have an unintentionally damaging effect on the innovation, competitiveness and economic growth of the European digital industries. It would not be in the interests of European businesses nor of consumers and would put us at a disadvantage in relation to global competition.”³⁹

Furthermore, there is a definitional issue. Any *ex-ante* regulatory framework ensuring free and non-discriminatory access to “essential” online platforms would require an accurate definition of “essential” online platforms. However, there is no universally agreed-upon

³⁶ Telefonica, ‘Q&A: Carlos López Blanco, Telefónica’s Head of Public and Regulatory Affairs’ (2015) *Public Policy* <<https://www.telefonica.com/en/web/public-policy/blog/article/-/blogs/q-a-carlos-lopez-blanco-telefonica-s-head-of-public-and-regulatory-affairs>>.

³⁷ European Commission (n 22) 11.

³⁸ Baran *et al.* (n 30) 30.

³⁹ Various EU Member States, ‘Joint Letter from the United Kingdom, the Czech Republic, Poland, Luxembourg, Finland, Sweden, Denmark, Estonia, Latvia, Lithuania and Bulgaria to European Commission Vice-President Andrus Ansip’ (2016) <<https://www.politico.eu/wp-content/uploads/2016/04/platforms-letter.pdf>>.

definition of platforms.⁴⁰ As will be seen in Chapters 2 and 3, online platforms differ greatly in terms of the business model they follow.⁴¹ As the CMA has explained:

“there is no ‘one size fits all’ definition. While many share the common feature of acting as intermediaries between other actors in the market, they may have quite different functions including: providing a market place where sellers and buyers can meet (such as peer to peer sites); providing information about sellers or buyers (such as review sites); and/or facilitating a transaction (such as payment intermediaries)”⁴²

Accordingly, one can wonder how a “one-size-fits-all” approach could ensure ‘fair’ and ‘non-discriminatory’ access to platforms as diverse as social networks, search engines, app stores, operating systems, sharing economy apps or e-commerce platforms, as a means to promote competition. Moreover, it is highly unlikely that access to some of said platforms is absolutely ‘essential’ to ensure that competition is not distorted in possible downstream or neighbouring markets.⁴³ Therefore, any sort of *ex-ante* regulation applicable to “essential” online platforms risks being over-inclusive and ultimately unnecessary. Competition law enforcement, which relies on concrete evidence and applies on a case-by-case basis, is undoubtedly more suitable to deal with any access or other anticompetitive issues in the digital economy without deterring the innovation that many online platforms have brought about to the benefit of consumers.

III. The Hands-Off Approach

1. Arguments supporting a Hands-off Approach

Supporters of the hands-off approach to competition enforcement in digital markets commonly rely on Schumpeter’s ‘dynamic competition’ notion. Schumpeter famously

⁴⁰ As Gawer notes, “[w]hile the term platform is used across [...] different literatures, the meaning of the term seems to differ between them [...] One could even wonder at first glance if they are discussing the same underlying phenomenon. In the vernacular of business, the term platform can also have different meanings.” Annabelle Gawer, ‘Platforms, Markets and Innovation: An Introduction’, in Annabelle Gawer (ed), *Platforms, markets and innovation* (Edward Elgar Publishing 2011) 46.

⁴¹ See Chapter 2 Section I.2 and Chapter 3 Sections I.5.1, I.5.2 and I.5.3.

⁴² CMA, ‘Written Evidence for Report Online Platforms and the Digital Single Market’ (2015) <<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/23391.html>>.

⁴³ Massimiliano Kadar, ‘European Union Competition Law in the Digital Era’ (2015) SSRN paper 13–14 <<https://ssrn.com/abstract=2703062>>.

described competition as the “perennial gale of creative destruction” that “strikes not at the margins of the profits and the outputs of the existing firms, but at their foundations and their very lives”.⁴⁴ In dynamic markets, the competitive race does not reward the producer selling more at the lowest price, but rather the innovator who comes up with the best ‘killer’ product that conquers the entirety of the market. Schumpeter also noted that the process of creative destruction is the main source of economic progress and growth, for which reason, if the promotion of consumer welfare lies at the core of competition policy, it should foster dynamic competition instead of its “weaker cousin”, static competition.⁴⁵

However, competition policy is deeply rooted in a model of static competition,⁴⁶ which depicts perfect competition⁴⁷ as the welfare-maximising structure and the benchmark for

⁴⁴ Joseph A Schumpeter, *Capitalism, Socialism and Democracy* (Routledge 1942) 84.

⁴⁵ Sidak and Teece (n 12) 600; Schumpeter (n 44) 105–106.

⁴⁶ The notions of static and dynamic competition and static and dynamic efficiencies are of paramount significance for competition analysis. Generally, economists distinguish between three broad classes of efficiencies:

- Allocative efficiency: this efficiency is achieved when the existing goods are allocated through the price system to those buyers who value them most, in terms of willingness to pay or willingness to forego other consumption possibilities. At an allocatively efficient outcome, market prices are equal to the real resource costs of producing and supplying the products.
- Productive efficiency: this efficiency addresses the question of whether any given level of output is being produced by a firm/industry at least cost or, alternatively, whether any given combination of inputs is producing the maximum possible output. The state of technology determines what alternative combinations of resources can produce a given amount of output. Productive efficiency is achieved when output is produced in plants of optimal scale (or minimum efficient scale) given the relative prices of production inputs.
- Dynamic efficiency: it is connected to whether appropriate incentives and ability exist to increase productivity and engage in innovative activity over time, which may yield cheaper or better goods or new products that afford consumers more satisfaction than previous consumption choices.

Allocative and productive efficiency are static notions concerned with the performance of an economy, industry or firm at a given point in time, for a given technology and level of existing knowledge, as opposed to dynamic efficiency, which is a dynamic notion concerned with the ability of a firm, industry or economy to exploit its potential to innovate, develop new technologies and thus expand its production possibility frontier.

Static competition manifests itself in the form of multiple providers of existing products offered at low prices, offering an unchanging menu of unimproved products at very good prices (for which reason is consistent with the perfect competition paradigm, see below n 47). Logically, static efficiencies arise from this kind of competition. Conversely, dynamic competition is a style of competition that relies on innovation to produce new products and processes and concomitant price reductions of substantial magnitude. Improvements based on innovation are forms of dynamic efficiencies.

For a more comprehensive explanation of static versus dynamic competition and efficiencies, as well as their respective trade-offs, see Miguel De la Mano, ‘For the Customer’s Sake: The Competitive Effects of Efficiencies in European Merger Control’ (2002) *Enterprise Papers* No.11 8–9.

⁴⁷ Perfect competition is a theoretical construction which depicts markets showing the following features: free entry and exit, no significant economies of scale in production, no individual supplier can influence the market price, the equilibrium price is determined by the interplay between demand and supply, and all suppliers are “price takers”. Perfect competition produces static desirable outcomes for the economy as a whole: (i) production takes place at the lowest level of cost (productive efficiency); and (ii) all consumers

measuring losses associated with departures from this ideal world. Yet, “perfect competition is to economics what the frictionless plane is to physics: an abstract ideal that is never attained in reality”.⁴⁸ Accordingly, it is argued that the traditional ‘static’ competition framework fails to account for the true nature of competition in high-tech sectors:

“[I]n the static sense, competition in such high-tech industries appears far from being rigorous. A few dominant firms have significant market power and they set prices well above marginal costs. In the Schumpeterian view, however, the *expectation* of short-run market power is a necessary condition for dynamic competition and the *existence* of short-run market power does not necessarily imply lack of competition.”⁴⁹

Moreover, the combination of economies of scale, network effects and high fixed and sunk costs is likely to be conducive to a near-monopoly or a highly concentrated market, but this tendency to monopoly is relatively benign, given that monopoly positions are inherently fragile:

“competition in high technology markets is frequently characterized by incremental innovation, punctuated by major paradigm shifts. These shifts frequently cause incumbents positions to be completely overturned [...] [A]ntitrust authorities need to be cognizant of the self-correcting nature of any dominance that is obtained in a particular regime [...] as] market dominance in technologically progressive industries is likely to be transitory.”⁵⁰

From the above follows that in dynamically competitive industries no undertaking is capable of maintaining a monopoly or dominant position unless it permanently outperforms its competitors by being the most innovative firm, introducing consecutive generations of superior products. This premise implies that, because of the very nature of the competitive process, no anticompetitive action deployed by a dominant firm can have a significant role in preserving its dominant position.⁵¹ As a result, “antitrust intervention

who are willing to pay a price that covers this cost of production are indeed served. The “right” amount of resources in the economy is allocated to production (allocative efficiency).

⁴⁸ Evans and Schmalensee (n 11) 13.

⁴⁹ Sanghoon Ahn, ‘Competition, Innovation and Productivity Growth: A Review of Theory and Evidence’ [2002] OECD Economics Department Working Papers No. 317 8.

⁵⁰ David J Teece, *Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions* (OUP 2000) 160–163.

⁵¹ Office of Fair Trading, ‘Innovation and Competition Policy’ (2002) 138

<<http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.offt.gov.uk/OFTwork/research/economic-research/completed-research>>.

is likely to be rendered both unnecessary and undesirable, except in the most unusual of circumstances.”⁵²

In addition, it is argued that the task of distinguishing aggressive but procompetitive behaviour from anticompetitive conduct is rendered all the more difficult in online markets due to the following reasons:

a) Defining markets and drawing inferences about competition from market structure is extremely problematic in the digital realm:⁵³ for example, the SSNIP test, the main tool to define markets, is unsuited to online industries.⁵⁴ Moreover, competition enforcement agencies commonly construe “high” market shares as an indicator of a significant degree of market power, and in merger cases, increases in concentration in the relevant market are taken as a proxy for reduced competition which, if large enough, may lead to substantial price increases. However, “current product-market shares may indicate very little about the future of the industry or about whether any given firm will possess significant market power.”⁵⁵ As a result, intervention based on such inferences is bound to be mistaken or counterproductive;

b) Online markets exhibit competition *for* the market through drastic innovation rather than *in* the market through price/output decisions: with innovation, “the number of new entrants explodes, but once a dominant design emerges implosions are likely, and markets become more concentrated.”⁵⁶ The competitive pressure exerted upon incumbents comes from innovative competitors and entrants that may leapfrog the incumbents over time, rather than from current product-market competitors attempting to gain market share by cutting prices and/or expanding output. Given that firms in online markets compete on the basis of innovation, price decisions play only a second role, if any. This is particularly true in the case of certain online services, such as search engines and social networking sites, where end users enjoy the services free of charge.⁵⁷

⁵² Teece and Coleman (n 3) 809.

⁵³ [A]n assessment of the true economically-relevant market for search advertising is an extremely complicated endeavor.’ Manne and Wright (n 4) 196.

⁵⁴ See Chapter 3 Section I.4.1.3.

⁵⁵ Michael L. Katz and Howard A. Shelanski, “‘Schumpeterian’ Competition and Antitrust Policy in High-Tech Markets’ (2005) SSRN paper 10 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=925707>.

⁵⁶ Sidak and Teece (n 12) 604.

⁵⁷ “Many of the [described] web-based platforms... are free to at least one group of customers”. David S. Evans, ‘The Web Economy, Two-Sided Markets and Competition Policy’, in David S. Evans (ed), *Platform Economics: Essays on Multi-Sided Businesses* (Competition Policy International 2011) 255.

c) Innovation is closely related to antitrust error: According to Manne and Wright, historical experience shows that innovative practices, products and services have been commonly treated harshly by competition authorities. Novel practices have resulted in monopoly explanations from economists followed by hostility in courts, and only subsequently a more nuanced and thorough understanding of the novel practice emerges, commonly recognising procompetitive virtues.⁵⁸ Therefore, antitrust analysis in innovative settings such as online industries is highly likely to be biased towards ascribing an anticompetitive explanation to a practice which the subsequent literature and evidence will prove reasonable or efficient. This bias towards false positives is increased by the fact that “economists know much less about the relationship between competition and innovation, and in turn, consumer welfare, than they do about standard price competition”.⁵⁹ More importantly, this bias is bound to have the unintended effect of slowing innovation and economy welfare.⁶⁰

In view of the aforementioned difficulties, the argument runs, competition authorities are bound to make errors. Since the social costs arising from false positives or overenforcement errors are greater than those associated with false negatives or underenforcement errors, as market forces offer at least some corrective with respect to the latter and none to the former⁶¹ and both types of errors are inevitable,⁶² a relaxed, cautious “hands-off” approach to competition enforcement in digital markets is advised.

2. Arguments against the Hands-off Approach

In the Schumpeterian view of competition, large undertakings and monopolies are more innovative than firms in competitive markets, for which reason monopoly, rather than competition, is perceived as more conducive to innovation. Logically, this view implies a

⁵⁸ Geoffrey A Manne and Joshua D Wright, ‘Innovation and the Limits of Antitrust’ (2010) 6 Journal of Competition Law and Economics 153, 165.

⁵⁹ *ibid* 166.

⁶⁰ *ibid* 171.

⁶¹ This assertion is based on Easterbrook’s error-cost framework. See Frank H Easterbrook, ‘Limits of Antitrust’ (1984) 63 Tex. L. Rev. 1, 15.

⁶² “Distinguishing precompetitive from anticompetitive actions with certainty is impossible”. David McGowan, ‘Between Logic and Experience: Error Costs and United States v. Microsoft Corp.’ (2005) Berkeley Technology Law Journal 1185, 1189.

lenient treatment to monopolies and unilateral conduct, especially in high-tech industries, “where the stakes of error are much higher.”⁶³

However, modern economic theory and empirical research do not support Schumpeter’s argument that monopoly is more likely to lead to innovation than competitive markets. Baker notes that the economic literature seeking to relate innovation in an industry to the extent to which firms in the market compete has rendered important principles that disprove Schumpeter’s hypothesis, such as “competition in innovation itself – that is, competition among firms seeking to develop the same new product or process – encourages innovation”, and “competition among rivals producing an existing product encourages those firms to find ways to lower costs, improve quality or develop new products.”⁶⁴ After surveying the empirical evidence relating competition and innovation, he concludes:

“As a general rule, competition does not just lead firms to produce more and charge less; it encourages them to innovate as well. Competition supplies a powerful motive for innovation”.⁶⁵

In a similar vein, Katz and Shelanski argue that “economic intuition suggests an overarching presumption that innovation will be most intense in firms with a mix of competitive incentives and supracompetitive returns”,⁶⁶ and after a thorough analysis of the empirical research on the relationship between market structure and innovation, they conclude:

“Our analysis, therefore, suggests that the claim for systematic laissez-faire in technologically dynamic markets is not soundly grounded in economics. It will not always, or even often, be true that unchecked consolidation will produce the conditions fostering the intense investment in new technology that leads to sequential competition ‘for the market’, as the Schumpeterians sometimes argue”.⁶⁷

Nor is a lenient approach towards exclusionary conduct advisable to promote innovation, as it is at least as likely to stifle the very innovation it aims to promote, given that under

⁶³ Manne and Wright (n 58) 167.

⁶⁴ Jonathan B Baker, ‘Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation’ (2007) 74 Antitrust Law Journal 575, 579.

⁶⁵ *ibid* 587.

⁶⁶ Michael L Katz and Howard A Shelanski, ‘Mergers and Innovation’ (2007) 74 Antitrust Law Journal 1, 19.

⁶⁷ *ibid* 29–30.

such approach competitors or potential competitors of dominant firms are dissuaded from incurring risky investments in R&D by fear of increased exclusionary conduct, which in turn leads to lower pressure on dominant firms to innovate. As Gavil notes:

“What firm will undertake – and what investor will seriously support – entry into a market occupied by a dominant firm that has already demonstrated its penchant for entry-detering strategies – especially if it has already received the imprimatur of the courts?”⁶⁸

Nor can the hands-off approach be justified by a fear of deterring procompetitive conduct by dominant undertakings. There is no evidence whatsoever that dominant undertakings refrain or have refrained from engaging in procompetitive conduct as a result of fear of liability under Article 102 TFEU (or its equivalent in other jurisdictions).⁶⁹

Moreover, a permissive approach to unilateral conduct cannot be justified either by the higher social costs arising from false positives relative to those arising from false negatives, as the error-cost framework used to advance such approach rests on several economic assumptions that are not fulfilled in online markets.

As Baker explains, the error-cost framework assumes *inter alia* that (i) markets self-correct through entry, (ii) monopolies innovate and foster market growth (i.e. the dynamic competition argument), (iii) monopolists cannot obtain more than a single monopoly profit, and (iv) prevalent business practices cannot harm competition.⁷⁰ However, firstly, as will be seen in Chapters 2⁷¹ and 3,⁷² some digital markets are characterised by very high barriers to entry. In particular, as explained above, some digital markets show “winner-takes-all” dynamics, which means that an innovator conquers the entirety or most of a market. In the presence of network effects, the strong dominant position of the innovator is likely to be strengthened with the passage of time. In this scenario, even entrants or competitors with better products or services are likely to fail in their challenges against the incumbent. This is one of the reasons why competition agencies must remain vigilant and

⁶⁸ Andrew I Gavil, ‘Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance’ (2004) 72 Antitrust Law Journal 3, 40. See Chapter 5 text accompanying footnote 200.

⁶⁹ Gavil notes that there “is no data to support the accusation that Section 2 is over-detering some kind of ‘legitimate conduct’”. *ibid* 51.

⁷⁰ Jonathan B Baker, ‘Taking the Error out of “Error Cost” analysis: What’s Wrong with Antitrust’s Right’ (2015) 80 Antitrust Law Journal 1, 8–17.

⁷¹ See Chapter 2 Section II.5.2.3.

⁷² See Chapter 3 Sections II.5.1, II.5.2 and II.5.3.

monitor closely digital markets, ensuring that undertakings win the competitive race and conquer the market on the basis of better prices, quality, innovation or choice, and that even after a firm achieves a dominant market position, said position may still be challenged. Perhaps more importantly, competition authorities must ensure that dominant positions are not abused, thereby preventing entry, chilling innovation or obstructing a transition to a new technology.

Secondly, with regard to the dynamic competition argument discussed above, it must be reiterated that the claim that competition policy should be permissive of high concentration and unilateral conduct in order to promote innovation lacks empirical grounding,⁷³ and at any rate, is unconvincing, because it ignores the ways in which more competition enhances innovation.

Thirdly, as demonstrated by Post-Chicago scholars,⁷⁴ monopolists can and do indeed extract more than one single monopoly profit through exclusionary conduct such as raising rival's costs⁷⁵ or leveraging of market power.⁷⁶ In particular, digital markets are almost invariably multisided,⁷⁷ which means that there are multiple links and interdependences between the different groups of customers a platform serves, as well as links between the platform and downstream or neighbouring markets. In addition, digital platforms tend to be data-intensive, and the data they collect and process on one side of the market can be reprocessed and used on another side or market. These two features allow incumbents in digital industries to leverage their market power onto other markets with particular ease.⁷⁸

Fourthly, practices that are commonplace in some digital markets are very harmful to competition. Chapter 2 explains that there are important economies of scale and scope in the processing and use of data, as a result of which incumbents with great data collection and processing capacity enjoy a significant competitive advantage. In turn, Chapter 5 explains that some platforms, driven by an insatiable appetite for data to derive a

⁷³ Katz and Shelanski (n 66) 26.

⁷⁴ Andrew I Gavil, Jonathan B Baker and William E Kovacic, 'Note on "Single Monopoly Profit" Theory' (2014) SSRN paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2496932>.

⁷⁵ Thomas G Krattenmaker and Steven C Salop, 'Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price' (1986) 96 The Yale Law Journal 209.

⁷⁶ Steven C Salop and R Craig Romaine, 'Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft' (1998) 7 Geo. Mason L. Rev. 617.

⁷⁷ See Chapter 2 Section I and Chapter 3 Section I.4.1.

⁷⁸ See Chapter 3 Section III.3 and Chapter 5 Section II.5.3.1.2.

competitive advantage, violate the right of individuals to data protection on a regular basis. When such violation of rights is of significant magnitude and allows for the extraction of valuable data, said violation fuels the abovementioned economies of scale and scope, thereby consolidating dominance, lessening competition, and enabling the leveraging of market power onto related markets.⁷⁹

In view of the above, competition policy that refrains from intervening in digital markets seems far from sensible, especially on account of the fact that some of said markets tend to be characterised by the presence of super dominant firms, as a result of which the competitive structure therein is already weakened.

IV. Conclusions

This Chapter has argued that neither an *ex-ante* regulation nor a hands-off approach is suitable to address the perceived competition concerns that are present in digital markets. The enforcement of Article 102 TFEU, it is submitted, remains more than ever necessary to prevent, stop and deter anticompetitive conduct that would otherwise constrain the healthy process of competition in digital markets. The next two Chapters elaborate in support of this contention. In particular:

As seen above, the proposal of lenient competition enforcement in digital industries rests on dubious grounds: there is no evidence that concentrated markets are more conducive to innovation, there is no evidence that undertakings refrain from procompetitive conduct by a fear of antitrust liability under Article 102 TFEU, and there is no evidence that the social costs arising from false positives are higher than those stemming from false negatives. But this is not the end of the story. The hands-off approach overlooks the significance of two recent phenomena:

- As will be seen in Chapter 2, the market leaders of digital industries are organised as platforms. These platforms have certain characteristics that raise concerns of

⁷⁹ See Chapter 5 Sections II.5.2.1 and II.5.3.1.

great complexity and severity, which warrant special attention (as opposed to *laissez-faire*) on the part of competition authorities.

- The business model of several online platforms revolves around the collection and monetisation of data. As will be explained in Chapter 2, data is an input to the products and services a platform offers, as well as a strategic and valuable asset. The central role of data in online markets forces competition authorities to understand how undertakings compete therein, as well as the manner in which data may be used to abuse market power.

In addition, whereas the proponents of the hands-off approach are right when they argue that conventional tools to define markets are not particularly useful when applied to digital industries, that structural presumptions based on market shares are less relevant in fast-changing markets, and that competition analysis should depart from the ‘traditional’ excessive focus on price, these observations are a poor justification for a lax enforcement policy in digital industries. Chapter 3 demonstrates that, by being aware of the pitfalls and limitations of the ‘traditional’ price-oriented competition analysis, and through a flexible application of the competition assessment tools that have been developed throughout years of experience, markets can be readily defined and market power (dominance) can be properly assessed.

Finally, an *ex-ante* regulation runs the risk of being overly inclusive, and this risk is extremely high. As will be seen in Chapters 2 and 3, although online platforms share some common characteristics, they vary greatly in terms of the business models they follow, and consequently, they derive their market power from different sources. A “one-size-fits-all” regulatory solution is inherently incapable of accounting for these nuances, and its long-lasting effects will likely deter the innovation that competition policy seeks to promote.

CHAPTER 2. Online Platforms and Big Data

Introduction

The argument for laissez-faire in digital markets fails to account for two recent phenomena: some firms have followed a ‘platform’ business model, and competition takes place to a large extent on the basis of the collection and processing of personal data. Understanding these phenomena and their implications is of the essence to settle the debate on the role that competition policy on Article 102 TFEU should play in digital markets.

Section I analyses online platforms and their main characteristics. In particular, online platforms show network effects, have an asymmetric pricing scheme and collect and process personal data. These features may in specific cases lead to concerns of great complexity and severity which warrant a vigilant role on the part of competition authorities. Section II analyses and discusses the ‘Big Data’ and ‘Big Analytics’ phenomena. Big Data and Big Analytics bring about significant benefits, but at the same time, raise concerns of market power. The Big Data and competition policy debate is still in its infancy, and the Commission has only assessed whether Big Data may raise barriers to entry and confer market power in merger decisions. In its decisional practice, the Commission has developed two criteria to assess any possible ‘data-advantage’: (i) whether or not producing the data is costly and resource-intensive (whether the data is easily replicable or expensive and difficult to replicate), and (ii) whether post-transaction there remains available an amount of data sufficient for competitors to match the competitive advantage arising from the transaction for the merging firms (whether data is widely available or scarce). It is argued that the second criterion is particularly problematic, as it confuses ‘data being widely available’ with ‘data being fungible’ and ‘readily accessible’. It will be seen that some data may not be substitutable with other data. Additionally, data may be ‘widely available’, and yet not readily accessible to entrants or competitors. Indeed, even if non-rivalrous, a particular dataset may be nevertheless costly and time-consuming to replicate. Further, a data advantage depends to a large extent on Big Data’s volume, variety and velocity, as well as on learning-by-doing and spill-overs

among the different sides of a platform's multisided market. The consideration of these factors should be central in the assessment of whether a data advantage confers market power. Section III presents some conclusions, a test to assess the 'data-advantage', and some caveats regarding the Big Data debate.

I. Online Platforms

1. General

Search engines, social networks, e-marketplaces, sharing economy apps and App Stores are all examples of online platforms. These platforms are a species of what is known in the economics literature as multisided platforms (MSPs).¹ There is no universally accepted definition for MSPs., but they can be described as building blocks (be it products, technologies or services) that serve as the foundation upon which different groups of economic agents interact, unleashing hidden economic value from interactions between such groups that otherwise would not happen or would be significantly costlier.² Hardly a new phenomenon, MSPs were recently uncovered as a species of business by Rochet and Tirole,³ from whose work it is now understood that *inter alia* payment card systems, operating systems, shopping malls, video game consoles, advertising-supported media and dating sites are all MSPs.

Evans and Schmalensee have defined a MSP as having “(a) two or more group of customers; (b) who need each other in some way; (c) but who cannot capture the value from their mutual attraction on their own; and (d) rely on the [platform] to facilitate value-creating interactions between them”.⁴ They contend that MSPs provide a real or

¹ When referring to a platform provider it is commonplace to see in the literature the terms “two-sided” or “multi-sided” markets. In this thesis, however, the “multi-sided platform” concept will be preferred, as multisidedness is a characteristic of a business model rather than of a market itself.

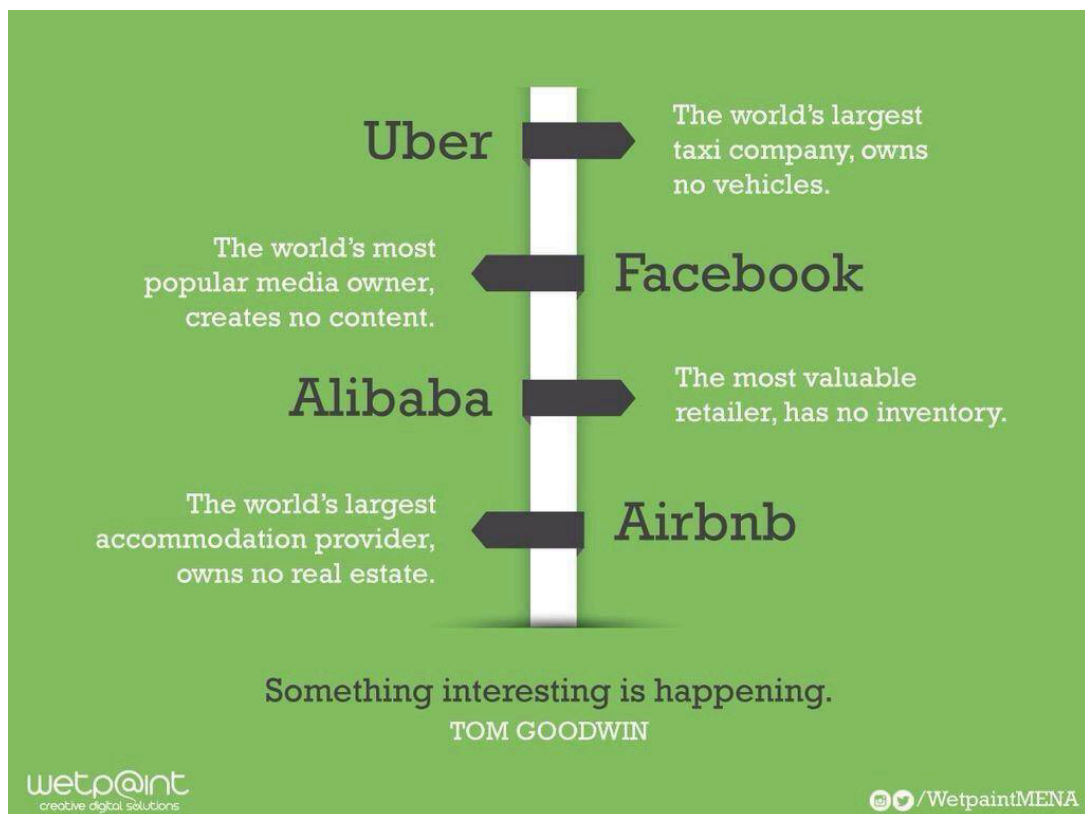
² This definition draws on Annabelle Gawer, ‘Platforms, Markets and Innovation: An Introduction’, in Annabelle Gawer (ed), *Platforms, markets and innovation* (Edward Elgar Publishing 2011).

³ Jean-Charles Rochet and Jean Tirole, ‘Platform Competition in Two-Sided Markets’ (2003) 1 *Journal of the European Economic Association* 990.

⁴ David S Evans and Richard Schmalensee, ‘The Antitrust Analysis of Multi-Sided Platform Businesses’ (2013) National Bureau of Economic Research Working Paper 18783 7 <<http://www.nber.org/papers/w18783>>.

virtual meeting place that facilitates interactions between members of at least two distinct groups of customers.⁵

The Monopolkommission has put emphasis on the intermediary function of online platforms.⁶ Since they are essentially intermediaries, (some) online platforms do not have to invest in the creation of content or goods or in the provision of services to which they give access; rather, they rely on the workforce and resources of third parties,⁷ as depicted in the diagram below:⁸



⁵ David S Evans and Richard Schmalensee, 'The Industrial Organization of Markets with Two-Sided Platforms', in David S. Evans (ed), *Platform Economics: Essays of Multi-Sided Businesses* (Competition Policy International 2011) 9.

⁶ Monopolkommission, 'Special Report 68: Competition Policy: The Challenge of Digital Markets' (2015) 19 <<http://www.monopolkommission.de/index.php/en/reports/special-reports/284-special-report-68>>.

⁷ This is not the case of all online platforms. For example, search engines need to crawl the web and devise an index to enable value-creating interactions between searchers and advertisers. Generally speaking, no across-the-board statements for competition policy should be made in respect of online platforms.

⁸ Taken from 'Wetpaint | Creative Digital Solutions' <<https://wetpaint-mena.com/>>.

2. Benefits and Types of Online Platforms⁹

According to the European Commission, online platforms “play an ever more central role in the online world and hence in social and economic life.”¹⁰ Online platforms’ perceived benefits are manifold, including:

- consumer convenience (time saving, accessibility at any hour of the day, personalisation, simplified transaction system and home delivery);
- accessibility of information and price transparency (through search engines, rating systems and comparison tools);
- improved awareness (ads promoting goods and services that the user was unaware of, more accessible product information);
- greater choice (diversity of products and sellers);
- monetary benefits (offering packages of goods and services, promoting deals, reducing costs of access to information);
- additional sources of income (consumers can sell their products on marketplaces, offer services through sharing economy platforms);
- reduction of transaction costs¹¹ and access to a wider market than businesses would otherwise reach through their own websites;
- stimulation and opening up of research, innovation and access to knowledge.

It is possible to observe the following types of online platforms:

- Online marketplaces or e-commerce platforms: These platforms are entities which offer a ‘virtual space’ to buyers and third-party sellers of goods and services in exchange for a fee, enabling direct transactions between them. Examples are eBay, Amazon, Alibaba and Rakuten.

⁹ This section draws on European Commission, ‘Commission Staff Working Document - Online Platforms Accompanying the Document Communication on Online Platforms and the Digital Single Market’ (2016) 1–40 <<https://ec.europa.eu/digital-single-market/en/news/commission-staff-working-document-online-platforms>>.

¹⁰ *ibid* 1.

¹¹ Transaction costs are the costs associated with the participation in a marketplace, and can include *inter alia* search or information costs incurred for the identification of opportunities, costs of negotiating contracts, and costs of transferring a good or providing a service.

- **Application Distribution Platforms (or ‘Apps stores’):** These are virtual marketplaces which enable users to download apps to mobile devices, and app developers to reach users. Google Play (for Android OS) and App Store (for iOS) are the most salient examples. Platforms charge Store fees and sales commissions to app developers.
- **Search Engine platforms:** They help Internet users to find the relevant answers to their search requests from amongst tens of billions of webpages, and facilitate direct interaction between Internet users, website operators seeking an audience for their content, and online advertisers targeting potential customers. There are ‘general’ (i.e. they cover any category of information) search engines such as Google, Bing and Yahoo!, and ‘vertical’ (i.e. they cover specific categories of information) like Booking.com, Expedia.com and TripAdvisor.com.
- **Social Media and Content Platforms:** Social media platforms are online meeting places which allow users to create profiles, invite friends, organise groups, surf other user profiles, and in general communicate with a network of users. Examples are Facebook, MySpace, Google+ and LinkedIn. On the other hand, content platforms principally serve to publicly share user generated content such as opinions (Twitter), videos (YouTube), images (Flickr) and music (Soundcloud), sometimes incorporating a ‘social network’ element. The primary revenue source of these platforms is advertising.
- **Sharing economy platforms:** Also known as ‘collaborative consumption’ platforms, these platforms are virtual places which allow for peer-to-peer-based activities of obtaining, giving, or sharing the access to goods and services. The most successful examples are Uber (car sharing) and Airbnb (apartment rentals).

It is worth noting that the distinctions above are not always clear-cut. For example, some general search engines also include vertical search functionalities, or alternatively provide direct access to specialised apps (as is the case of Bing with Bing Maps). Also, some social media platforms enable the sharing of user generated content, and also incorporate electronic communication services, online gaming and other features. Perhaps more importantly, some online platforms are vertically integrated and have presence in two or more of the segments above (the most striking example being Google, with its Android OS, Google Play Store, Google engine, YouTube video platform and an array of other services).

3. Characteristics of Online Platforms

Online platforms (1) show network effects, (2) have an asymmetric pricing scheme, and (3) rely on the collection and processing of consumer data. Notably, these characteristics¹² tend to raise issues of great complexity and severity that warrant a vigilant role on the part of competition authorities.

3.1 Network Effects

Network effects (also known as network externalities or positive-feedback effects)¹³ emerge when the value of a product or service to its users is increased with the number of other users of such product or service. Network externalities are one of the most defining features of digital markets and platforms, since the increasing popularity of a platform attracts additional users and other economic operators (such as application developers and advertisers) to the platform.¹⁴

Network effects can be direct or indirect. Direct (or club) network effects arise where there is interaction between the users of a product, and having more users makes the product more useful and valuable for all users. A good example is given by social network platforms such as Facebook:¹⁵ the more users on the network, the higher its attractiveness is for users. As a matter of fact, every new member of Facebook brings in 200 friends on average.¹⁶ The same applies to telecommunication networks, such as ‘traditional’ phones, Skype or WhatsApp, as the universe of people with whom to communicate increases with the number of users. As a result, networks with a large use base tend to grow bigger, as they attract more customers, all else being equal.

¹² In particular, these characteristics have significant repercussions on market definition and market power assessments. See Chapter 3 Sections I.4 and II.5.

¹³ With regard to network externalities in general see for example Stan J Liebowitz and Stephen E Margolis, ‘Network Externality: An Uncommon Tragedy’ (1994) 8 *The Journal of Economic Perspectives* 133; Michael L Katz and Carl Shapiro, ‘Technology Adoption in the Presence of Network Externalities’ (1986) 94 *Journal of Political Economy* 822; Michael L Katz and Carl Shapiro, ‘Network Externalities, Competition, and Compatibility’ (1985) 75 *The American Economic Review* 424.

¹⁴ OECD, ‘Hearings: The Digital Economy’ (2013) DAF/COMP(2012)22 8
<<http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf>>.

¹⁵ Other examples are Instagram, Pinterest or Xing.

¹⁶ House of Lords, ‘Online Platforms and the Digital Single Market’ (2016) 24.

Conversely, indirect network effects arise where the increasing use of a product increases its attractiveness to another economic group, which in turn renders indirect benefits for the original users of the product. Indirect network effects are said to be the most significant feature of two- or multi-sided platforms and markets.¹⁷ Think about OSs: widespread adoption of an OS attracts application developers who will devise and make available new applications compatible with such OS, thereby increasing its value for its users. The same applies to e-commerce platforms such as eBay: the more buyers the platform has, the more attractive the platform is for sellers, as they have a wider group of users with whom to consummate transactions. Increased value to the platform's different customer groups results in a positive feedback loop, whereby more customers on one side attract more customers on the other side.

Network externalities may be positive for one group of customers but negative for another. MSPs create value where one side benefits from more demand on the other side, but the other side obtains no benefit or would even prefer less or no demand from the other side. This phenomenon can be seen in some advertising-supported platforms: although advertisers will value more an advertising platform (such as a search engine) the more “eyeballs” it can reach, users are likely to be indifferent or even annoyed by advertisements. Thus, the platform enables the interaction between the different groups by subsidising users (with content or services), so they are willing to see advertisements. Insofar as the externalities' net value is positive, benefits arise from the interaction, some of which may be internalised by the platform.¹⁸

The internalisation of network externalities is of the essence for a MSP's success. The platform must recognise the interdependency among the demands from its different customer groups and devise a strategy to get enough customers on every side, so as to secure sufficient “critical mass” and propel indirect network effects.¹⁹ Without one side of the platform, the other sides will not join, and vice versa. This amounts to the well-known “chicken and egg problem”:²⁰ what side should join first? For instance, low or zero prices on one side of the platform aids the platform to solve the chicken and egg problem by

¹⁷ Evans and Schmalensee (n 4) 2.

¹⁸ *ibid* 8.

¹⁹ *ibid* 9.

²⁰ Bernard Caillaud and Bruno Jullien, ‘Chicken and Egg: Competing Matchmakers’ (2001) CEPR Discussion Paper No. 2885.

attracting the participation of the benefited group, which in turn, by propelling network effects, incentivises the participation of the non-benefited group or groups (the so-called “divide and conquer” strategy²¹).

When a platform effectively manages to harness network effects and achieves critical mass, it is ready to take off and enjoy rapid growth. Conversely, a platform incapable of achieving critical mass is almost certainly doomed to extinction. If a platform does not achieve critical mass, the members who have joined it will tend to stop participating because the platform does not render enough value, and new members on the other side will stop joining because they cannot realise enough value either. In this case, instead of taking off, the platform implodes through reverse positive feedback effects: few customers on one side will cause a reduction in the number of customers on the other side, which in turn leads to more customers on the first side exiting the platform, and so on. Needless to say, attaining critical mass is quite a challenging task which the immense majority of start-up platforms fail to accomplish. For instance, by the time YouTube was commencing operations in 2005, there were over forty video sites attempting to secure enough viewers and take off, yet as of 2011 virtually all of such competing video sharing sites were gone. YouTube was the most successful video-sharing platform in obtaining both people uploading videos and viewers in enough numbers to ignite and attain exponential growth.²² Conversely, for example, Goggle Video did not achieve critical mass because it was incapable of generating enough content to attract viewers and could not attract enough viewers to attract user-generated and paid content.²³

Where network effects are strong, snowball effects are likely to occur, since consumers will want to be part of the largest network that offers the highest value. If there is no interoperability amongst competing networks’ products and services, switching from the largest network entails loss of network benefits. Switching costs²⁴ are especially salient

²¹ Bruno Jullien, ‘Competition in Multi-Sided Markets: Divide and Conquer’ (2011) 3 *American Economic Journal: Microeconomics* 186.

²² David S Evans, ‘The Web Economy, Two-Sided Markets and Competition Policy’, in David S. Evans (ed), *Platform Economics: Essays on Multi-Sided Businesses* (Competition Policy International 2011) 257.

²³ “In the case of Google Video, the company’s fans might have settled for “Don’t be mediocre”. David Pogue, ‘Google Video: Trash Mixed With Treasure’ (2006) *The New York Times* <<https://www.nytimes.com/2006/01/19/technology/circuits/google-video-trash-mixed-with-treasure.html>>.

²⁴ Switching costs “can be defined as the real or perceived costs incurred when changing a supplier but which are not incurred by remaining with the current supplier”. See CMA and Autorité de la Concurrence, ‘The Economics of Open and Closed Systems’ (2014) 10–11 <<https://www.gov.uk/government/publications/effects-of-open-and-closed-systems-on-competition>>.

when ecosystems are technically incompatible, as components have to be repurchased, learning costs may be high, or contents cannot be transferred to other platforms (i.e. lack of data portability). For example, search engines have moved beyond being mere search tools, since they offer myriad of online tools in platforms having search functionality at their core. For consumers who use all the services offered by a search engine platform (such a *inter alia* Google search, Gmail, Google Docs, Google Scholar and Google Chrome), switching to a different search engine may be costly due to reasons related to familiarity or convenience. In these cases, consumers can become “locked-in”. In turn, an increasing number of locked-in economic agents served by a platform will eventually lead the market to a “tipping point”,²⁵ thereby creating a barrier to entry (or expansion) in the form of higher costs of overcoming the network benefits arising from the leading platform. Once the tipping point is reached, “the value of the network of the dominant player will so far outstrip that of its competitors that the market collapses into a natural monopoly”²⁶. Last but not least, when a platform becomes a technological standard (for example, Microsoft’s Windows), network externalities can define the path of technology, as subsequent inventions are likely to follow the “path” defined by the first firm taking a significant lead, even in the presence of some other superior standards in the technical sense or otherwise.²⁷

3.2 Pricing Asymmetry

Overcoming the chicken and egg problem is just the first step in a platform’s quest for success. Once the platform has enough numbers of costumers on board and has decided the price level it will charge,²⁸ the platform still has to devise and keep an optimal price structure²⁹ to be profitable. The price structure needs to “balance” the demands of the platform’s different sides. For example, when determining prices, a MSP needs to consider that charging a higher price to side A will have the effect of fewer A customers

²⁵ Daniel Rubinfeld, ‘Competition, Innovation, And Antitrust Enforcement In Dynamic Network Industries’ (1998) 8 <<https://www.justice.gov/atr/speech/competition-innovation-and-antitrust-enforcement-dynamic-network-industries>>.

²⁶ Daniel F Spulber and Christopher S Yoo, ‘Mandating Access to Telecom and the Internet: The Hidden Side of Trinko’ (2007) 107 Columbia Law Review 1822, 1890.

²⁷ According to David, QWERTY keyboard’s dominance is a prime example of “standardization on the wrong system”. Paul A David, ‘Clio and the Economics of QWERTY’ (1985) 75 The American economic review 332, 332–337.

²⁸ Price level can be defined as the sum of the prices of the two or more sides of the platform.

²⁹ Price structure can be defined as the allocation of the price level between consumers on the platform’s different sides.

using the platform, which in turn will decrease the platform's value to B customers. In addition, it must take into account the fact that there need to be enough A customers for the platform to be of interest of B, and enough B customers for the platform to be of interest of A. This assessment commonly results in MSPs setting price structures which are highly skewed towards one side of the market. For example, in an analysis of the price structure of different MSPs, Evans found that approximately 80% of newspapers revenue comes from advertisers (applicable to Newspapers and Magazine platforms), approximately half of FOX's revenue comes from advertisers (Network Television platform), at least 67% of Microsoft's revenue comes from licensing packaged software (especially Windows) to final consumers (OS platform), and over 82% of American Express' revenue come from charges to merchants (Payment System platform).³⁰

In digital markets, this skewed price structure is commonly taken to the extreme: one side served by the platform gets the product or service for “free”. For example, passengers do not pay for the Uber service, but drivers do. Search engines' users do not pay to search engines, but advertisers do. Social Network sites' users do not pay for signing up and using the platform, but advertisers do. Buyers do not pay fees on online transaction platforms (such as eBay), but sellers do.

When products and services are offered for “free”, some are inclined to argue that there is no market and no harm to consumers. For example, in *Kinderstart.com*, the plaintiff KinderStart sued Google for *inter alia* attempted monopolisation and monopolisation in violation of the Sherman Act. The US District Court of California dismissed the claim on the following grounds:

“KinderStart has failed to allege that the Search Market is a “grouping of sales”. It does not claim that Google sells its search services, or that any other search provider does so. [...] KinderStart cites no authority indicating that antitrust law concerns itself with competition in the provision of free services [...] Thus, the Search Market is not a “market” for purposes of antitrust law”.³¹

Relatedly, suggesting the idea that zero prices and harm to consumers are mutually exclusive, Wright and Manne have argued:

³⁰ David S Evans, ‘Some Empirical Aspects of Multi-Sided Platform Industries’, in David S. Evans (ed), *Platform Economics: Essays on Multi-sided Businesses* (Competition Policy International 2011) 33.

³¹ *KinderStart.com LLC v Google, Inc*, No C 06-3057 JF (RS) WL 831806 (ND Cal 2007) 5.

“it’s really hard to see the above-marginal-cost pricing in these [digital] markets. From the point of view of the buyers... these monopolists are really pathetic at extracting profits, as most of them give away their products for free...”³²

It is submitted that, instead of signalling the absence of a market, the presence of zero prices indicates that the supplier of free products or services is making money somewhere else. A proper analysis of markets with products or services priced at zero must begin by understanding why the supplier is charging zero prices, and how the supplier is earning profits. As will be seen in Chapter 3, markets for products and services offered for ‘free’ can be readily defined by taking into consideration all the sides served by the platform and the interdependencies between them.³³

Moreover, the contention that there can be no harm to consumers when products or services are “free” is one-dimensional and mistaken. Price is only one parameter of competition. Accordingly, consumer harm arising from monopolistic conduct or other practices may not result in higher prices (or positive prices if products were offered free of charge), but it can certainly take of form of lower innovation, service quality or choice. For example, if access to an App store is denied to a privacy-friendly app for no reason other than the threat posed by such app to the business model of the App store’s owner,³⁴ such conduct reduces choice and lowers incentives to innovate in privacy-friendly technologies.

3.3 Collection and Processing of Data

3.3.1 General

To ability to know the preferences and tastes of consumers is logically a driver of commercial success, as it allows to adjust supply to demand, thereby reducing transaction costs and avoiding waste. But brick-and-mortar businesses only have access to limited

³² Joshua Wright and Geoffrey Manne, ‘What’s An Internet Monopolist? A Reply to Professor Wu’ (2010) *Technology Liberation Front* <<https://techliberation.com/2010/11/23/whats-an-internet-monopolist-a-reply-to-professor-wu/>> .

³³ See Chapter 3 Section I.5.

³⁴ See Chapter 3 Section III.3.2.

information about their customers, as they can know, at best, what types of products a given consumer buys, the frequency with which he visits the shop, his credit history and other personal data such as card details and home address.

In this connection, online platforms have an advantage relative to brick-and-mortar shops, as they have more information at their disposal. The larger the platform is and the wider the range of product and services it provides, the more detailed and accurate will be the consumer profiles it can elaborate. For example, upon becoming an Amazon consumer, Amazon applies data to every user click to guide the consumer's experience and "guess" what sort of products a consumer may like. In addition, Amazon's ads reach mobile and its Kindle devices, which in turn provides the platform with more valuable user data.³⁵ Google does something similar, but its net is wider.³⁶ In this way, large digital platforms can control the who (identification of the consumer, his preferences and demographic profile), what (personal interests, surfing habits, likes and dislikes), where (physical location either by IP address, mobile phone location or cross-device targeting) and when/why (platforms used predictive algorithms to determine what drives consumer behaviour) of consumers.³⁷

3.3.2 Roles of User Data

For online platforms, data serves three roles: it can be (i) an input of production allowing undertakings to develop and improve their services; (ii) a strategic asset that may be used to block entry or expansion; and (iii) a product sold to third parties for a given monetary price.³⁸

³⁵ Marcus Wohlsen, 'Amazon's Ad Business Makes Twitter's IPO Look Puny' (2013) *Wired* <<https://www.wired.com/2013/09/amazon-tops-twitter-in-ads/>>.

³⁶ See below text accompanying footnote 228.

³⁷ Renee Hill, 'The Google Effect: What Will Be The Ultimate Cost?' (2014) *AdExchanger* <<https://adexchanger.com/data-driven-thinking/the-google-effect-what-will-be-the-ultimate-cost/>>.

³⁸ Howard A Shelanski, 'Information, Innovation, and Competition Policy for the Internet' (2013) 161 *University of Pennsylvania Law Review* 1663, 1679.

3.3.2.1 Data as an Input of Production

Widespread collection of personal data and monitoring of users have enabled online platforms to carry out extensive analyses of users' activities.³⁹ The information resulting from such analyses can be seen as an input of production when online platforms use it to provide and improve their services. The improvements are seen mostly in the form of personalisation of online services (on the user or free side) and targeted advertising (on the advertiser or paying side).

Broadly speaking, search engines deploy computer programs that 'crawl' the web and build and update automated indexes of web content, and employ sophisticated algorithms that evaluate the content of a user's search query to determine which parts of the web index may contain relevant responses, rank the potential responses based on the predicted likelihood of their relevance, and display the most relevant results to the user's query. As users search information online, they provide search engines with valuable information such as *inter alia* user locational data, date and time of the queries entered and resulting browsing behaviour (the search results that are clicked on). This information is subsequently used to improve the performance of their algorithms by enhancing the relevance of (i.e. personalising) their results. For instance, search engines typically render personalised search results based on the users' search history and location (a query consisting of 'restaurants near me' will render results based on the specific user's current location and likely preferences).⁴⁰ Social network platforms also rely on algorithms to provide, improve and personalise their service. Based on the data gathered from user-generated content and interactions with the platform, social network algorithms can increase the relevance of social network engagement, suggested friends or suggested interests that are shown to specific users. For example, on Facebook, the stories shown in a user's 'News Feed' are determined by the user's connections and activity on Facebook, which allows the platform to show more stories that interest a specific user posted by friends with whom such user interacts the most.⁴¹ Similarly, e-commerce platforms also rely on algorithmic technology to predict the relevance of 'purchase suggestions' that are shown to users. For instance, Amazon's 'item-to-item collaborative filtering' algorithm, which is based on what a user has purchased in the past, what items are contained in a

³⁹ Monopolkommission (n 6) 30.

⁴⁰ See Chapter 5 Section II.5.2.1.1, 2).

⁴¹ Facebook, 'Help Centre' <<https://www.facebook.com/help/327131014036297/>>.

user's shopping cart, what items have been ranked and liked by the same individual, and what other customers have viewed and purchased, enables the personalisation of users' shopping experiences to a great extent. As one analyst notes, "[a] gadget enthusiast may find Amazon web pages heavy on device suggestions, while a new mother could see those same pages offering up baby products".⁴²

On the advertiser side, the collection and analysis of user data are of tremendous significance for the provision of as-targeted-as-possible online advertising. As noted by Analysys Mason, "[t]he online sector relies on data collected about consumers as an important driver of revenue from advertising and e-commerce",⁴³ for which reason there is an incentive to gather and process as much consumer data as possible, since more consumer data enables more efficient, targeted and valuable advertising.⁴⁴ More data allows online platforms to identify specific consumers that may be interested in specific ads. These ads are then shown to said consumers during their interaction with the platform. Advertisements on search engine platforms are basically text ads labelled "Sponsored Results" that are shown alongside organic search results.⁴⁵ Advertisers bid for keywords they want to be associated with, and the outcome of the auction determines the rank of the ads to be placed in the search results based on the maximum bid for the keyword and the relevance of the ads to a given user's query. On the other hand, social network platforms display ads based on the information contained in user profiles, thus being able to target by age, gender, location and interests.⁴⁶ Advertisements have typically a social context in the form of *inter alia* 'page likes' (for example, the 'linking' of a page of or 'checking-in' to a restaurant by a user's friend can be shown as advertisement), page post engagement (used to promote popular company placed by an advertiser) or clicks to websites (deferrals to external websites placed on social network platforms).⁴⁷ The more users a social network platform has, and the greater their engagement with the platform and therefore the information surrendered by them, the larger the audience advertisers can reach with highly targeted advertisement. Similarly, e-commerce platforms like Amazon display advertisements on different places of their websites, such as below search

⁴² JP Mangalindan, 'Amazon's Recommendation Secret' (2012) *Fortune*
<<http://fortune.com/2012/07/30/amazons-recommendation-secret/>>.

⁴³ Analysys Mason, 'Online Data Economy Value Chain – Report for Ofcom' (2014) 14
<http://stakeholders.ofcom.org.uk/binaries/research/online-data-value/online_customer_data.pdf>.

⁴⁴ Shelanski (n 38) 1680.

⁴⁵ David A Vise, *The Google Story* (Reprints edition, Pan 2008) 88–89.

⁴⁶ Charlie R Claywell, 'Advertising on Social Networking Sites' (2015) *Lovetoknow*
<http://socialnetworking.lovetoknow.com/Advertising_on_Social_Networking_Sites>.

⁴⁷ *ibid*.

results, in the right column on search results pages, and in an ad placement on detail pages.⁴⁸ For example, through the ‘Sponsored Products’ service, Amazon targets ads based on keywords bid by advertisers, the product category and description, and the estimated relevance of the ad to product search queries made by users.⁴⁹

3.3.2.2 Data as a Strategic Asset

Data constitutes a core economic asset that may create a significant competitive advantage for firms.⁵⁰ Thus, in order to obtain or maintain this competitive advantage, online platforms have powerful incentives to block access to their datasets by other undertakings,⁵¹ to foreclose access by competitors to sources of valuable data,⁵² to make it harder for consumers to switch to other technologies or platforms,⁵³ or to otherwise engage in exclusionary conduct to reinforce their market power.⁵⁴

In particular, insofar as consumer data is used as an input to provide a given platform’s services and said data is not equally available to such platform’s competitors, a data-advantage can readily consolidate dominance and lessen competition. For example, in the FTC investigation against Google, FTC Staff found that Google had entered into exclusionary agreements with websites for syndicated search and search advertising services.⁵⁵ The agreements had the effect of foreclosing a great part of the market, thereby denying access to data and therefore scale to Google’s main competitor (Microsoft), in addition to raising barriers to entry for potential entrants in the long run.⁵⁶ Microsoft claimed, and FTC Staff agreed with it, that by being unable to access data and gain scale, it was not able to improve its search and search advertising services and gain market share,

⁴⁸ Amazon, ‘Amazon.com: Sponsored Products - FAQ’ (2017) *Amazon.com* <<https://services.amazon.com/services/sponsored-products-questions.html>>.

⁴⁹ *ibid.*

⁵⁰ OECD, ‘Supporting Investment in Knowledge Capital, Growth and Innovation’ (2013) 319 <<http://www.oecd-ilibrary.org/docserver/download/9213021e.pdf?expires=1497457538&id=id&accname=oid008858&checksum=B4106E6A4B3BA2759A6ED5DC67BA38C2>>.

⁵¹ See Chapter 3 Section III.2.2.

⁵² See paragraph below and Chapter 3 Section III.2.1.

⁵³ See Chapter 3 Sections III.3.1 (discussing contractual restrictions on Android OS) and III.3.2 (discussing demotion in SERP).

⁵⁴ See generally Chapter 3 Section III.

⁵⁵ See Chapter 3 Section III.2.1.

⁵⁶ FTC Staff, ‘FTC Staff Report on Google - File No. 111-0163’ (2012). This document was supposed to remain private but half of the pages were inadvertently disclosed in an open-records request and subsequently published by the Wall Street Journal. See <<http://graphics.wsj.com/google-ftc-report/>>.

and that by having exclusive access to the largest websites' search and search advertising data, Google was able to amass more data to make improvements to its products and services that its competitors could not replicate, and to maintain, preserve and reinforce its monopoly power in the markets for search, search advertising and search syndication.⁵⁷ This theory of harm is consistent with the view of the EDPS contained in its Preliminary Opinion 'Privacy and Competitiveness in the Age of Big Data', where he argued that the exploitation of economics of aggregation "create[s] barriers to entry through [the platforms'] control of huge personal datasets alongside proprietary software which organises the data."⁵⁸

3.3.2.3 Data as a Product

The data gathered and combined by online firms can be sold to advertising intermediaries or other third parties which assemble it into consumer profiles. These profiles "can be of enormous value to prospective employers, insurance companies, and business looking to identify potential customers or product lines".⁵⁹ In this way, user data constitutes a product and serves as an additional revenue stream for online businesses. For example, through its enterprise API platform Gnip, Twitter "delivers aggregate information about audiences [defined by an advertiser], making it easy to derive valuable insights about these audiences on Twitter".⁶⁰ However, amongst large online platforms, this is more the exception than the rule, as in view of the strategic nature of data as an asset, they have an incentive to keep their datasets to themselves.

⁵⁷ *ibid* 108–112.

⁵⁸ EDPS, 'Preliminary Opinion of the European Data Protection Supervisor. Privacy and Competitiveness in the Age of Big Data: The Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy' (2014) 30. For a more detailed discussion on this topic see below Section II.5.2.3.

⁵⁹ Shelanski (n 38) 1682.

⁶⁰ Gnip, 'Insights' (2016) *Gnip.com* <<https://gnip.com/insights/>>.

As seen above, the characteristics of online platforms may, individually or in conjunction with each other, derive into issues of great complexity and severity. In view of *inter alia* the significance of the digital economy,⁶¹ the natural tendency of high-tech markets to high levels of concentration, and the ability of dominant firms to engage in abusive conduct,⁶² competition authorities should pay particular attention to said issues and intervene when necessary.

II. Big Data and Big Analytics

1. General

The ubiquity of ICT systems and Internet connectivity, declining computer costs, and the migration to the Internet of traditionally ‘offline’ socioeconomic activities have been important drivers of the increasing generation and use of data. An IDC study indicates that there were 4.4 trillion gigabytes of data produced globally in 2013, and this amount is forecast to double every two years, in such a way that by 2020 around 44 trillion gigabytes will be generated.⁶³ Mobile telephones with Internet connectivity (smartphones) and tablets have contributed to this trend significantly, as they support a large array of services provided through applications (or apps) which are dependent on the collection and use of data (for example, maps, running apps, or transport-related apps such as Uber). According to Cisco, global mobile data traffic grew 63% in 2016; mobile data traffic has grown 18-fold over the past five years, and almost half a billion (429 million) mobile devices and connections were added in 2016.⁶⁴ In addition, the advent of the Internet of things (IoT)⁶⁵ has expanded the number of offline activities being digitally recorded, and

⁶¹ See generally European Commission, ‘Communication from the Commission, A Digital Single Market Strategy for Europe’ (2015) <<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>>.

⁶² See Chapter 3 Section III.

⁶³ IDC, ‘The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things’ (2014) 2.

⁶⁴ Cisco, ‘Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016– 2021, White Paper’ (2017) 1 <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.pdf>.

⁶⁵ The IoT adheres to an ‘anything connected’ vision, assuming that any physical or virtual thing which could benefit from a connection to the Internet will be eventually connected. See Oleksiy Mazhelis, Eetu Luoma and Henna Warma, ‘Defining an Internet-of-Things Ecosystem’, in Sergey Andreev, Sergey

consequently the flow of data. According to a study conducted by MGI, over 30 million networked sensor nodes are present in the transportation, automotive, industrial, utilities and retail sectors, and said number is growing at a rate of more than 30% a year.⁶⁶ The resulting phenomenon is commonly described as “big data”. In a data-driven economy, data enhances economic competitiveness and drives innovation.⁶⁷

According to one study,⁶⁸ big data has the potential to positively impact several sectors ranging from public administration, healthcare & social care, utilities, transport and logistics, retail & trade, geospatial to application & services. For example, it has been argued that “[b]y making their operations more data-driven, cities can fine-tune regulations, improve the allocation of scarce resources, and forecast future needs”.⁶⁹ At the same time, big data’s potential to discriminate and aggravate structural inequalities has called the attention of regulators and policy-makers. “We must begin a national conversation on Big Data discrimination, and civil liberties”⁷⁰, stated a report issued by the Obama administration, which referred to a study that found that search queries involving names commonly associated with black people (such as Tyrone) were more likely to display ads having the word “arrest” than those involving names commonly associated with white people (like Benedict)⁷¹.

Big Data raises many legal, moral and ethical issues, such as cybersecurity and the undertakings’ accountability for the actions of their algorithms.⁷² This Chapter, however, focuses on the implications of big data for competition policy.⁷³ The debate on big data’s competitive significance is highly polarised, with some arguing that data has little, if any,

Balandin and Yevgeni Koucheryavy (Eds), *Internet of Things, Smart Spaces and Next Generation Networking* (12th International Conference NEW2AN 2012 and 5th Conference, ruSMART 2012, St Petersburg, Russia, August 27-29, 2012 Proceedings).

⁶⁶ McKinsey Global Institute, ‘Big Data: The next Frontier for Innovation, Competition and Productivity’ (2011) 2

<http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation>.

⁶⁷ OECD, ‘Data-Driven Innovation for Growth and Well-Being: Interim Synthesis Report’ (2014) 7.

⁶⁸ European Big Data Value Partnership, ‘European Big Data Value Strategic Research and Innovation Agenda’ (2014).

⁶⁹ Edward L Glaeser, Scott Duke Kominers, Michael Luca and Nikhil Naik, ‘Big Data and Big Cities: The Promises and Limitations of Improved Measures for Urban Life’ (2015) Harvard Kennedy School Faculty Research Working Paper Series RWP15-075, 1.

⁷⁰ Executive Office of the President, ‘Big Data: Seizing Opportunities, Preserving Values’ (2014) 64 <http://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf>.

⁷¹ *ibid* 7.

⁷² Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (OUP 2016) 1.

⁷³ The intersection of big data, competition law, data protection law and consumer protection law is addressed in Chapters 4 and 5.

competitive significance,⁷⁴ whilst others contend that big data almost inevitably leads to “winner-takes-all” outcomes and high concentration.⁷⁵ It is submitted that these views are too broad and extreme. As will be seen below, any assessment of big data and any possible advantages derived therefrom must be carried out on a case-by-case basis, as data that are relevant for the provision of one service may be irrelevant for the provision of another.⁷⁶

2. What are Big Data and Big Analytics?

Big data is a generic concept which lacks a universally accepted definition. According to the Article 29 Working Party, “[b]ig data refers to the exponential growth both in the availability and in the automated use of information.”⁷⁷ It is commonly defined by reference to four “V”s:⁷⁸ *volume* (large amounts of data), *velocity* (the speed at which data is generated, collected and processed), *variety* (the diversity of data coming from different sources) and *value* (the usefulness of the data for different purposes).

Advancements in data science have led to the ability to learn fast and deep from big data with the aid of algorithms that access and analyse vast amounts of information (i.e. big analytics). Said advancements include *inter alia* data-mining techniques such as association analysis, data segmentation and clustering, classification and regression analysis, anomaly detection and predictive modelling.⁷⁹ The analysis of data, performed through algorithms and such advanced data processing techniques, becomes more valuable to the extent that it allows for specific patterns to be found and new correlations to be made between several datasets coming from combined different sources, thereby allowing to deduce or infer new information and potentially predict trends and behaviours or assess the likelihood for certain events to occur.⁸⁰ The access to large amounts of data and the recognition of unidentified patterns through big analytics reveal big data’s main underlying postulate: the more data is available for processing, irrespective of its apparent

⁷⁴ Darren S Tucker and Hill B Wellford, ‘Big Mistakes Regarding Big Data’ (2014) Antitrust Source.

⁷⁵ OECD (n 67) 7.

⁷⁶ Nils-Peter Schepp and Achim Wambach, ‘On Big Data and Its Relevance for Market Power Assessment’ (2015) 7 Journal of European Competition Law & Practice 120, 121.

⁷⁷ Article 29 Data Protection Working Party, ‘Opinion 03/2013 on Purpose Limitation’ (2013) 35.

⁷⁸ Christy Pettey, ‘Gartner Says Solving “Big Data” Challenge Involves More Than Just Managing Volumes of Data’ (2011) *Gartner* <<http://www.gartner.com/newsroom/id/1731916>>.

⁷⁹ Daniel L Rubinfeld and Michal S Gal, ‘Access Barriers to Big Data’ (2017) 59 Ariz. L. Rev. 339, 347.

⁸⁰ Primavera De Filippi, ‘Big Data, Big Responsibilities’ (2014) 3 Internet Policy Review 2.

significance or value, the higher are the chances to obtain unexpected and potentially valuable information.⁸¹

In addition, big data has propelled the design and development of smart, self-learning algorithms (i.e. deep learning) that carry out myriad of functions relating to *inter alia* pricing decisions, matchmaking, planning, logistics, online communications and e-commerce. Deep learning technology attempts to mimic the activity in layers of neurons in the neocortex, the 80% of the brain where thinking takes place. Deep learning software and algorithms crunch large datasets, thereby ‘learning’ to recognise patterns in digital representations of sounds, images and other data.⁸² As a result, algorithms can understand and translate languages, identify images, write news articles and analyse medical data.⁸³ For example:

“In October, Microsoft chief research officer Rick Rashid wowed attendees at a lecture in China with a demonstration of speech software that transcribed his spoken words into English text with an error rate of 7 percent, translated them into Chinese-language text, and then simulated his own voice uttering them in Mandarin. That same month, a team of three graduate students and two professors won a contest held by Merck to identify molecules that could lead to new drugs. The group used deep learning to zero in on the molecules most likely to bind to their targets.”⁸⁴

Companies like Tesla, Ford, Uber, Jaguar, Apple, Toyota and Google have been using deep learning technology to develop ‘driverless’ cars.⁸⁵ The algorithms steering the cars will make decisions concerning directly the physical integrity and even life or death of people, for example by the choice programmed in the event of an unavoidable crash or accident.⁸⁶ Relatedly, tech giants such as Apple, Facebook, Google and Microsoft are racing to develop their own artificial intelligence (AI) personal assistants. Endowed with predictive learning capability, these personal assistants have the ability to ‘learn’ to make decisions and proactively provide information to the user and make suggestions based on

⁸¹ Directorate General for Internal Policies, ‘Big Data and Smart Devices and Their Impact on Privacy’ (2015) 11
<[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/536455/IPOL_STU\(2015\)536455_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/536455/IPOL_STU(2015)536455_EN.pdf)>.

⁸² Robert D Hof, ‘Is Artificial Intelligence Finally Coming into Its Own?’ (2014) *MIT Technology Review*
<<https://www.technologyreview.com/s/513696/deep-learning/>>.

⁸³ EDPS, ‘Opinion 4/2015 Towards a New Digital Ethics Data, Dignity and Technology’ (2015)
<https://edps.europa.eu/sites/edp/files/publication/15-09-11_data_ethics_en.pdf>.

⁸⁴ Hof (n 82).

⁸⁵ Tom Cheshire, ‘Driverless Cars: What Have Makers Done so Far?’ (2016) *Sky News*
<<http://news.sky.com/story/driverless-cars-what-have-vehicle-manufacturers-done-so-far-10588314>>.

⁸⁶ EDPS (n 83) 8.

user input and data, such as frequent search queries, emails, past meetings and locations that the user commonly checks into.⁸⁷

Large volumes of data collected from a great variety of sources and processed at high velocity through big analytics leads to increased value of data (the fourth ‘V’). Indeed, big data and big analytics are engaged in a mutually reinforcing relationship, as machine learning requires access to large datasets, and in turn, big data would have significantly less value if firms were not able to quickly analyse the data and act thereupon. The capacity of the algorithm to learn and improve increases as it processes more relevant data.⁸⁸ This is illustrated by the Rubicon Project’s⁸⁹ description of its advertising platform which relies on the interplay amongst big data, machine learning and network effects:

“As we process more volume on our automated platform, we accumulate more data, such as pricing, geographic, and preference information, data on how best to optimize yield for sellers and more. This additional data helps make our machine learning algorithms more intelligent and this leads to more effective matching between buyers and sellers. As a result, more buyers and sellers are attracted to our platform, from which we get more data, which further reinforces the network effect and thereby increases market liquidity, which benefits both buyers and sellers.”⁹⁰

The volume of data is of particular significance. There is a belief that simple algorithms with lots of data outperform sophisticated algorithms with little data (partly as a result of the opportunity for algorithms to learn through trial and error).⁹¹ As Newman observes:

“One often-cited example of how brute force data analysis beats other forms of insight is the evolution of computer chess-playing computers. Decades ago the assumption was that computers needed to in some way develop a deep and complex analysis of the game to beat human players. Instead, programmers found it was more effective just to feed in massive amounts of information about recorded chess games and let the computer search for past game positions that match whatever game it’s currently playing, then make the move that worked in the past.”⁹²

⁸⁷ ‘AI Personal Assistants’ (2017) *Fung Global Retail & Technology*

<<https://www.fungglobalretailtech.com/research/ai-personal-assistants-2/>>.

⁸⁸ Ariel Ezrachi and Maurice Stucke, *Virtual Competition* (Harvard University Press 2016) 16.

⁸⁹ ‘Who We Are - Rubicon Project’ (2017) *Rubicon Project the Global Exchange for Advertising* <<http://rubiconproject.com/who-we-are/>>.

⁹⁰ The Rubicon Project, Amendment No. 3 to Form S-1 Registration Statement, quoted in Stucke and Grunes (n 72) 23.

⁹¹ Ezrachi and Stucke (n 88) 16.

⁹² Nathan Newman, ‘Data Justice: Taking on Big Data as an Economic Justice Issue’ (2015) 14.

3. Types of Data

Data can be classified in ‘actively declared (or volunteered) data’ and ‘passively supplied (or observed) data’.⁹³ Actively declared data corresponds to information that consumers voluntarily hand over when registering for services, purchasing products and services, creating a social network profile, uploading photos, participating in surveys and the like. Users may be unaware of the implications arising from the provision of these data; however, the creation of this data is fairly obvious or at least intuitive. Passively supplied data corresponds to data which is observed by online platforms and collected in the background as consumers carry out certain online activities. Locational data generated by smartphones and tablets, IP addresses, links on which consumers click on webpages, and search histories are examples of observed data which are recorded onto virtual profiles of consumers and kept by online platforms to target products of their liking. Informed users may be aware of the creation of this type of data, although much of their creation is likely to go unnoticed.

In addition to data actively and passively supplied by consumers, it is possible to add ‘derived data’ and ‘inferred data’. Derived data are data generated from other data, after which they become new data elements related to a particular individual. These data can be used for predictive purposes, although it is not based on probabilistic reasoning. By way of example, it is possible to mention computational data (for instance, calculation of customer profitability based on the ratio between number of visits and the items bought). On the other hand, inferred data arise from the detection of correlations that are employed to predict behaviours, and result from probability-based analytic processes. Predictions are subsequently used to categorise individuals. Statistical data, for instance, credit risk scores and profiles built from online activities belong to this category. It is worth mentioning that users to whom these two types of data relate do not get involved in their creation and almost invariably remain unaware of any inferences that may be drawn.⁹⁴

⁹³ CMA, ‘The Commercial Use of Consumer Data – Report on the CMA’s Call for Information’ (2015) 31.

⁹⁴ OECD, ‘OECD Working Party on Privacy and Security in the Digital Economy. Summary of the OECD Privacy Expert Roundtable. Protecting Privacy in a Data-Driven Economy: Taking Stock of Current Thinking’ (2014) 5
<http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=dsti/iccp/reg%282014%29&doclanguage=en>.

Data can also be “structured” or “unstructured”. This distinction has implication for the possibilities to extract economic value from the data, as well as for the methods necessary to do so. Structured data follows a model that defines a number of fields, what type of data is contained therein and how such data relate to each other. An example of this kind of data is a consumer address database containing information on the name, surname, address, age and phone number of consumers. Conversely, unstructured data does not conform to a specific model and normally has to be processed by different algorithms in order to render commercial value. Structured data can be more easily processed and used for commercial purposes than unstructured data, provided that traditional methods are considered.⁹⁵

Last but not least, data can be classified in non-personal and personal data.⁹⁶ Personal data is data that relates to an identifiable living individual. ‘Identifiable’ means that the individual can be identified from that data, either alone or in combination with other information.⁹⁷ Researches Narayanan and Shmatikov, by demonstrating feasibility of large-scale re-identification⁹⁸ using movie-viewing histories and in general any behavioural or transactional profile,⁹⁹ have proven that “once any piece of data has been linked to a person’s real identity, any association between this data and a virtual identity breaks the anonymity of the latter”.¹⁰⁰ Since current analytical methods allow to link data relating to *inter alia* search queries, websites visited, GPS locations and IP addresses back to an identifiable individual, virtually all consumer data overlaps with personal data.¹⁰¹

Big data does not necessarily involve the processing of personal data. For example, the use of climate and weather data can enable new discoveries and improved forecast services without using personal data. However, it is personal data the type of data on which the discussion regarding data and competition law focuses, because this data has

⁹⁵ Autorité de la Concurrence and Bundeskartellamt, ‘Competition Law and Data’ (2016) 6.

⁹⁶ See Chapter 5 Section I.2.

⁹⁷ ICO, ‘Big Data and Data Protection’ (2014) 3 <<https://ico.org.uk/media/for-organisations/documents/1541/big-data-and-data-protection.pdf>>.

⁹⁸ Re-identification or de-anonymization refers to the practice of linking alleged non-personally identifiable information to a specific individual through the combination of data.

⁹⁹ Arvind Narayanan and Vitaly Shmatikov, ‘Myths and Fallacies of Personally Identifiable Information’ (2010) 53 Communications of the ACM 24, 24–26.

¹⁰⁰ Arvind Narayanan and Vitaly Shmatikov, ‘Robust de-Anonymization of Large Sparse Datasets’, in *2008 IEEE Symposium on Security and Privacy (SP 2008)* (IEEE Computer Society 2008) 9.

¹⁰¹ OECD, ‘Exploring the Economics of Personal Data: A Survey of Methodologies Measuring Monetary Value’ (2013) 8 <[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/IE/REG\(2011\)2/FINAL&docLanguage=EN](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/IE/REG(2011)2/FINAL&docLanguage=EN)>.

more relevance for commercial purposes (as it enables improved targeting and therefore higher monetisation). In addition, as will be seen in Chapters 4 and 5, personal data is the common denominator of competition, data protection and consumer protection concerns which warrant a holistic approach to law enforcement.¹⁰²

4. The ‘Data Advantage’

The fact that big data and big analytics confer a competitive advantage is virtually undisputed. Early in 2011, a MGI report observed:

“[T]he impact of developing a superior capacity to take advantage of big data will confer enhanced competitive advantage over the long term and is therefore well worth the investment to create this capability. But the converse is also true. In a big data world, a competitor that fails to sufficiently develop its capabilities will be left behind.”¹⁰³

Big data’s roles¹⁰⁴ as well as the mutually reinforcing relationship between big data and big analytics¹⁰⁵ are the source of myriad of benefits accruing for both undertakings and consumers. Firms have understood the power of this competitive advantage, and have developed a ‘hunger for data’ that is demonstrated by certain events explained below.

4.1 Benefits of Big Data

First and foremost, the ability to collect and process data is a key driver for the innovativeness of online platforms and firms, since it allows them to identify potential trends and develop new products and services of particular relevance for users.¹⁰⁶ From a dynamic efficiency standpoint this is of the utmost significance, as the introduction of new products and services, and therefore the creation of new markets, allows latent demands and new consumer surplus associated with new demand curves to be realised by consumers.¹⁰⁷

¹⁰² See Chapter 5 Section II.

¹⁰³ McKinsey Global Institute (n 66) 8.

¹⁰⁴ See above Section I.3.3.2.

¹⁰⁵ See above Section II.2.

¹⁰⁶ Monopolkommission (n 6) 30.

¹⁰⁷ J Gregory Sidak and David J Teece, ‘Dynamic Competition in Antitrust Law’ (2009) 5 Journal of Competition Law and Economics 581, 600.

Secondly, detailed knowledge on consumers' preferences and behaviour allows platforms to better target ads and products, supply personalised services and increase consumer retention and loyalty.¹⁰⁸ Targeted advertising in turn can increase sales and revenues for marketers and merchants,¹⁰⁹ reduce advertisement investment that gets wasted when addressed to consumers uninterested in the advertised product,¹¹⁰ and reduce consumer annoyance.¹¹¹ Moreover, based on observed behaviour, big data enable the redesign and/or improvement of services, business processes, strategies and efficiency in general (for example, big data can be used to speed up transactions and reduce likelihood of product returns).¹¹²

Furthermore, big data benefits may be passed on to consumers in the form of reduced search costs,¹¹³ more efficient interactions online (in the form of personalised services), and 'free' content or services. As Lerner explains, "the ability to earn greater advertising revenues enhances competition for users, creating incentives for providers to invest in improving the quality of services offered and to offer those services to users at low or zero prices".¹¹⁴

4.2 Hunger for Data

Acknowledging the benefits that can be derived from big data, undertakings have begun to deploy different efforts to have access to as much data as possible in order to seize the 'data advantage'. For starters, some online platforms are increasingly acquiring companies that own large datasets. Amongst the most notorious examples it is possible to mention Google's acquisition of DoubleClick,¹¹⁵ Nestlab and Dropcam,¹¹⁶ Facebook's acquisition

¹⁰⁸ Carl Shapiro and Hal Varian, *Information Rules: A Strategic Guide to the Network Economy* (Harvard Business School Press 1999) 32.

¹⁰⁹ CMA (n 93) 50.

¹¹⁰ Robert C Blattberg and John Deighton, 'Interactive Marketing: Exploiting the Age of Addressability' (1991) 33 Sloan management review 5, 8–11.

¹¹¹ At least as compared with non-targeted advertising, since targeted advertising can be perceived by consumers as less vexatious or even as informative. Monopolkommission (n 6) 31.

¹¹² CMA (n 93) 50.

¹¹³ Alexandre De Corniere, 'Targeted Advertising with Consumer Search: An Economic Analysis of Keywords Advertising' (2009) PSE Working Papers No. 2009-48 3 <<https://halshs.archives-ouvertes.fr/halshs-00575074/>>.

¹¹⁴ Andres Lerner, 'The Role of "Big Data" in Online Platform Competition' (2014) SSRN paper 15 <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780>.

¹¹⁵ See below Section II.5.1.2.

of Instagram¹¹⁷ and WhatsApp,¹¹⁸ Microsoft's acquisition of LinkedIn,¹¹⁹ and Intel's acquisition of Mobileye.¹²⁰ According to the OECD, "the number of mergers and acquisitions (M&A) has increased rapidly from 55 deals in 2008 to almost 164 deals in 2012"¹²¹ in data-driven industries.

The appetite for data has led some platforms to gather more data than is reasonable for the provision of their services. For example, in 2015, Uber relaxed its privacy policy. After the privacy policy amendment, Uber was able to track its users' location even when they are not using the Uber app ("we may also collect the precise location of your device when the app is running in the foreground or background"), as well as to access their address books, collecting all the names and contact information contained therein in order to facilitate social interactions and for other purposes described in the privacy policy or in the future.¹²² Aside from the privacy issues arising from this amendment,¹²³ the problem is that it is unclear how access to the data described above is supposed to improve Uber's car-sharing and delivery services. As Ezrachi and Stucke observe:

"For its app to function, Uber doesn't need to continuously monitor your location. It doesn't need to know who all of your friends, family, and co-workers are, as well as anyone else listed among your contacts. Nor does Uber have to allow others to track you across the web, including when you visit Uber's website. So what explains Uber's actions? Here again the answer is data."¹²⁴

The fact that some platforms actively strive to gather data that is both related and unrelated to the services they provide suggests that data are valuable. As a result, there is likely to be no incentive to share the data, as sharing it may reduce the competitive

¹¹⁶ See Chapter 5 Section II.5.2.1.1, 1).

¹¹⁷ Kurt Wagner, 'Here's Why Facebook's \$1 Billion Instagram Acquisition Was Such a Great Deal' (2017) *Recode* <<https://www.recode.net/2017/4/9/15235940/facebook-instagram-acquisition-anniversary>>.

¹¹⁸ See below Section II.5.1.4.

¹¹⁹ Ingrid Lunden, 'Microsoft Officially Closes Its \$26.2B Acquisition of LinkedIn' (2016) *TechCrunch* <<http://social.techcrunch.com/2016/12/08/microsoft-officially-closes-its-26-2b-acquisition-of-linkedin/>>.

¹²⁰ Mallory Locklear, 'Intel's Acquisition of Mobileye Is Officially Complete' (2017) *Engadget* <<https://www.engadget.com/2017/08/08/intel-acquisition-mobileye-complete/>>.

¹²¹ OECD (n 67) 94.

¹²² Uber, 'Uber Privacy Statement' (2015) <<https://www.uber.com/legal/privacy/users/en/>>; iPhone notifies users the first time the Uber app requires permission to access the data, giving the option to consent or not consent to that request; Android users, on the other hand, have not option, as Android OS only notifies its users of the permissions that the Uber app seeks before the first use of the app, and the use of the app amounts to consent. Ezrachi and Stucke (n 88) 163–164.

¹²³ As is explained in Chapter 5 Section II.5.2.1.2, privacy policy amendments of this kind may lead to the processing of personal data without legal basis.

¹²⁴ Ezrachi and Stucke (n 88) 167.

advantage sought by the data collection efforts. Indeed, the majority of companies that are active on markets on which they collect data are commonly reluctant to share the data they collect with competitors, and sometimes this reluctance materialises in efforts to prevent competitors from accessing the same data. For example, Google restricts the portability of advertising campaigns and requires website publishers to enter into exclusivity contracts for search advertising syndication,¹²⁵ and Facebook prohibits third parties from collecting users' content or information "or otherwise access Facebook using automated means (such as harvesting bots, robots, spiders or scrapers)" without its prior permission.¹²⁶

5. Big Data Advantage and Market Power

The problem with the data advantage is that, if large enough, it may lead to industry concentration, strong barriers to entry, and market power giving rise to a significant risk of anticompetitive conduct.¹²⁷ As a result, competition authorities must evaluate the extent of the competitive advantage that data provides. Thus far, this exercise has been carried out only in merger decisions. In its decisional practice, the Commission has used two criteria to assess the 'data advantage': (i) whether or not producing the data is costly and resource-intensive (whether the data is easily replicable or expensive and difficult to replicate), and (ii) whether post-transaction there remains available an amount of data sufficient for competitors to match the competitive advantage arising from the transaction for the merging firms (whether data is widely available or scarce).

5.1 The Commission's Criteria: Ease of Replicability of Data (or data difficult to replicate) - Availability (or scarcity) of Data

The decisions below contain the criteria developed by the Commission to determine the advantage conferred by a dataset or combination of datasets upon merging firms. In neither of these cases did the Commission find that the data advantage arising from the transaction led to anticompetitive risks in the relevant markets under analysis.

¹²⁵ European Commission, 'Press Release - Joaquín Almunia Vice President of the European Commission Responsible for Competition Policy Statement of VP Almunia on the Google Antitrust Investigation' (2012) <http://europa.eu/rapid/press-release_SPEECH-12-372_en.htm>.

¹²⁶ Facebook, 'Terms of Service' (2015) <<https://www.facebook.com/terms.php>>.

¹²⁷ OECD, 'Hearing on Big Data - Note by BIAC' (2016) 5.

5.1.1 TomTom/Tele Atlas¹²⁸

In 2007, the manufacturer of portable navigation devices (“PNDs”) and supplier of navigation software TomTom sought to acquire one of the two main suppliers of navigable digital map databases, Tele Atlas. Navigable digital map databases are an input that is integrated in navigation software, and the integrated product (software and database) is then included in the PNDs that TomTom sells to end-consumers or sold to other manufacturers of navigation devices for their inclusion in their devices.

The Commission observed that a digital map database is a compilation of digital data including (i) geographic information which contains the position and shape of each feature on a map (such as roads, railways, rivers and indications of land use), (ii) attributes containing additional information related to features on the map (like street names, addresses, driving directions, turn restrictions and speed limits), and (iii) display information. The data included in the databases is derived from several sources such as aerial photographs, satellite images, official government map databases, other government sources and field data produced by field forces using customised vehicles.¹²⁹

The Commission distinguished between digital map databases for navigation purposes and non-navigation purposes. It noted that, to be used for navigation, a digital map database must be sufficiently detailed, accurate and updated, as opposed to databases for non-navigation purposes, which are simpler and contain more basic information.¹³⁰ The Commission also observed that upgrading a basic database to navigable quality required ‘substantial costs and time’.¹³¹ In particular, it argued that:

“Whereas it is possible to produce a basic digital map database for many territories relatively quickly and at limited cost by compiling data from various public sources, producing a navigable digital map database is costly and very resource-intensive.”¹³²

¹²⁸ Case COMP/M4854, *TomTom/Tele Atlas* (2008).

¹²⁹ *ibid* [17].

¹³⁰ *ibid* [22].

¹³¹ *ibid* [23].

¹³² *ibid* [23].

The Commission developed further, noting that a supplier of basic digital map datasets wanting to switch production to navigable digital map datasets would have to commit ‘substantial resources’ to gather all additional information necessary to achieve navigational capability. To this end, field forces driving the roads to record road features to be included in the database are of the essence. In addition, after completion of a database, it has to be permanently updated to incorporate all changes made to the road network.¹³³ For this purpose, TomTom has to collect data constantly. The OECD reported that TomTom adds 6 billion data points everyday.¹³⁴

Accordingly, entry barriers for the navigable digital map database market were very high. Indeed, the Commission found that even undertakings offering Internet-based map applications were unlikely to enter the market,¹³⁵ as it would be too costly and time-consuming for them to obtain and process the necessary data. Therefore, any firm in possession of such data, like TomTom, is likely to have market power in said market. Nevertheless, the Commission ultimately allowed the merger, as it found that the merged entity would not have the incentive to exercise market power or engage in an input foreclosure strategy.¹³⁶

5.1.2 Google/DoubleClick¹³⁷

In this case, both Google and DoubleClick were active in the online advertising industry, albeit providing different services. Google was active as ad publisher with its own search engine webpages, and as ad intermediary with its ad network AdSense. On the other hand, DoubleClick offered ad serving tools¹³⁸ to both publishers and advertisers.

As a result of their commercial activities, the merging firms collected and processed large amounts of personal data. Consequently, one of the theories of harm was that the merged entity could attempt to combine Google’s and DoubleClick’s datasets, thereby achieving a

¹³³ *ibid* [25].

¹³⁴ OECD (n 67) 20.

¹³⁵ *TomTom/Tele Atlas* (n 128) [158].

¹³⁶ *ibid* [223],[226].

¹³⁷ Case COMP/M4731, *Google/DoubleClick* (2008).

¹³⁸ *ibid* [26].

position that could not be replicated by its competitors.¹³⁹ In this connection, the Commission observed:

“It is not excluded that, from a factual point of view, the merged entity would be able to combine DoubleClick’s and Google’s data collections. Such a combination, using information about users’ IP addresses, cookie IDs and connection times to correctly match records from both databases, could result in individual users’ search histories being linked to the same users’ past surfing behaviour on the internet. For instance, after such a match, the merged entity may know that the same user has searched for terms A, B and C and visited web pages X, Y and Z in the past week. Such information could potentially be used to better target ads to users.”¹⁴⁰

The Commission, however, dismissed the possibility of a combination of the merging firms’ datasets. In particular, the merged firm would not have the ability to combine the datasets, as DoubleClick was contractually prohibited from using the data regarding which webpages a user visited to improve targeting of search ads on Google’s sites or in the AdSense network.¹⁴¹ Moreover, the merged entity would not have the incentive to do so, as such combination would prompt DoubleClick’s customers to switch to competitors (given that advertisers have no interest in other advertisers having access to their data).¹⁴² At any rate, the Commission argued that even if the merged firm combined Google’s and DoubleClick’s datasets, it would be unlikely that said combination could confer upon the merged entity a competitive advantage that could not be matched by its competitors, since

“the combination of data about searches with data about users’ web surfing behaviour is already available to a number of Google’s competitors today. For instance, both Microsoft and Yahoo! run search engines and offer ad serving. Competitors may also purchase data or targeting services from third parties such as comScore, a global internet information provider which maintains extensive proprietary databases that provide a measurement of the various ways in which the internet is used. Data is also available from internet service providers [...]”¹⁴³

From the Commission’s analysis transpires that the competitors’ option to access data similar to that of the merged entity was the key factor in establishing whether a

¹³⁹ *ibid* [359].

¹⁴⁰ *ibid* [360].

¹⁴¹ *ibid* [361].

¹⁴² *ibid* [363].

¹⁴³ *ibid* [365]; The FTC reached similar conclusions. See FTC File No. 071-0170 12–13, *Google / DoubleClick* (2008).

competitive advantage that could not be matched by them would arise from the transaction (i.e. that similar data was available).

5.1.3 Telefónica UK/Vodafone UK/Everything Everywhere/JV¹⁴⁴

The transaction under review in these proceedings consisted in a joint venture (“JV”) set up by the UK mobile network operators (“MNOs”) Telefónica UK, Vodafone UK and Everything Everywhere. The JV was aimed to provide mobile services to the parties to the JV and third party mobile operators. In particular, the JV planned to offer a platform enabling the supply of transaction services (the “Wallet Platform”), which would allow consumers to carry out transactions online; mobile advertising services for advertisers and media agencies wishing to develop advertising campaigns targeted at customers of mobile operators; and data analytics services. The JV intended to collect and analyse the data generated from the wallet platform and its advertising intermediation services in order to provide its customers with valuable insights into consumer behaviour.¹⁴⁵ In particular, the JV would rely on basic customer data collected by the MNOs, such as age, residential status, profession and location, data collected via the wallet platform, and data collected on the basis of contracts with merchants.¹⁴⁶

The Commission assessed whether the JV would foreclose competing providers of data analytics or advertising services by combining personal information, location data, response data, social behaviour data and browsing data, thereby creating a unique database essential for targeted mobile advertising that no competing provider of said services would be able to replicate.¹⁴⁷

Noting that the information available to the JV was also available to a large extent to both existing and new market players such as Google, Apple, Facebook, card issuers, reference agencies or retailers, which were already using the information to provide targeted advertising, the Commission dismissed the risk of foreclosure. Notably, the Commission

¹⁴⁴ Case COMP/M6314, *Telefónica UK/Vodafone UK/Everything Everywhere/JV* (2012).

¹⁴⁵ *ibid* [531].

¹⁴⁶ *ibid* [532].

¹⁴⁷ *ibid* [539].

held that customers normally tend to give their personal data to many market players, for which reason this type of data “is generally understood to be a commodity”.¹⁴⁸

The Commission’s decision in this case is a clear depiction of its view that concentrations of vast amount of data in one undertaking are unlikely to give rise to anticompetitive risks when data are widely available, especially if the data at stake are in possession of different firms at the same time.¹⁴⁹

5.1.4 Facebook/WhatsApp¹⁵⁰

In the review of this acquisition, the Commission found that Facebook was active in the market for social networking services and online advertising services, and that Facebook collects data regarding the users of its social network and analyses them in order to serve advertisements that are as much as possible “targeted” at each particular user.¹⁵¹ On the other hand, the Commission found that WhatsApp was active in the market for consumer communications services, and that WhatsApp does not sell any form of advertising and does not collect or store data about its users that would be valuable for advertising purposes.¹⁵²

One of the theories of harm analysed by the Commission was that the merged entity could start collecting data from WhatsApp users with the aim of improving the accuracy of the targeted ads served on Facebook’s social networking platform to WhatsApp users that are also Facebook users.¹⁵³ However, it was suggested in the proceedings that the merged entity would not have the incentive to start collecting data from WhatsApp users, as this data collection could prompt some users to switch to other consumer communications apps that they could perceive as less intrusive.¹⁵⁴

Moreover, the Commission analysed a potential concentration of Facebook’s and WhatsApp’s data only to the extent that it was likely to strengthen Facebook’s position in

¹⁴⁸ *ibid* [543].

¹⁴⁹ This circumstance relates to the ‘non-rivalrous’ nature of data. See Section II.5.2.2.2 below.

¹⁵⁰ Case COMP/M7217, *Facebook/WhatsApp* (2014).

¹⁵¹ *ibid* [70].

¹⁵² *ibid* [71].

¹⁵³ *ibid* [180].

¹⁵⁴ *ibid* [186].

the online advertising market or any sub-segments thereof,¹⁵⁵ and held that even if the merged entity started using WhatsApp user data to improve targeted advertising, competition concerns were unlikely to arise, as there would still remain large volumes of user data that are valuable for advertising purposes and that are not within Facebook's exclusive control.¹⁵⁶

The Commission's analysis confirms that the key factor to determine whether anticompetitive risk arise from a transaction that entails the combination of large datasets is whether there remain sufficient data available for competitors to provide online advertising services.

5.2 Critique of the Commission's Criteria

It is submitted that one should be aware of the fact that merger control consists in an ex-ante assessment based on different predictions and assumptions as to the evolution of the relevant market under scrutiny. Subsequent developments (i.e. after the consummation of the merger) may prove them wrong. In addition, it is argued that the criterion consisting in whether data is widely available or scarce is too vague and broad. As will be seen below, data may be widely available, but it does not necessarily follow that data is fungible or readily accessible to competitors. Indeed, data may be widely available and at the same time costly and time-consuming to replicate. Finally, it is sustained that the significance of data's 'volume', 'variety', and 'velocity', learning-by-doing and spill-overs between different sides of the MSP must be central in the assessment of whether data is likely to raise barriers to entry and confer market power.

5.2.1 Predictions and Assumptions of an ex-ante Assessment may be Mistaken

Decisions in merger review are made based on assumptions and predictions as to why the merger at hand is or is not likely to substantially lessen competition. Oftentimes competition agencies predict correctly; however, on occasions they predict wrongly.

¹⁵⁵ *ibid* [164], [187].

¹⁵⁶ *ibid* [189].

As explained above, in *Google/DoubleClick*, the Commission dismissed the theory of harm under which Google would combine its datasets with those of DoubleClick to gain a competitive advantage that could not be matched by its competitors, as it would have neither the ability nor the incentive to do so.¹⁵⁷

Fast forward to year 2016: Google amends its privacy policy, deleting the part that promised keeping DoubleClick's database of web-browsing records separate from the personal data Google collects from its many 'free' services. After the amendment, users' activity "on other sites and apps may be associated with [their] personal information in order to improve Google's services and the ads delivered by Google." According to ProPublica:

"The practical result of the change is that the DoubleClick ads that follow people around on the web may now be customized to them based on your name and other information Google knows about you. It also means that Google could now, if it wished to, build a complete portrait of a user by name, based on everything they write in email, every website they visit and the searches they conduct."¹⁵⁸

Similarly, in *Facebook/WhatsApp*, Facebook informed that it had "no current plans to modify WhatsApp's collection and use of user data",¹⁵⁹ and it was suggested that Facebook did not have the incentive to collect data from WhatsApp, as consumers could switch to more 'privacy-friendly' competing messaging apps.

Fast forward to year 2016: WhatsApp's terms of service were amended in August, after which the app started to share user phone numbers, profile data, status message and online status with Facebook. The Article 29 Working Party urged WhatsApp to stop sharing user data whilst it investigated its privacy practices,¹⁶⁰ and after pausing the use of WhatsApp data in the UK upon request from the ICO, Facebook stopped using these data for advertising across Europe.¹⁶¹ However, ever since then Facebook has been

¹⁵⁷ See Section above II.5.1.2.

¹⁵⁸ Julia Angwin, 'Google Has Quietly Dropped Ban on Personally Identifiable Web Tracking' (2016) *ProPublica* <<https://www.propublica.org/article/google-has-quietly-dropped-ban-on-personally-identifiable-web-tracking>>.

¹⁵⁹ *Facebook/WhatsApp* (n 150) [182].

¹⁶⁰ Steve Dent, 'Europe Urges Facebook to Stop Tapping WhatsApp Data' (2016) *Engadget* <<https://www.engadget.com/2016/10/28/europe-facebook-whatsapp-data-sharing/>>.

¹⁶¹ Samuel Gibbs, 'Facebook Halts Use of WhatsApp Data for Advertising in Europe' (2016) *The Guardian* <<https://www.theguardian.com/technology/2016/nov/17/facebook-halts-use-of-whatsapp-data-for-advertising-in-europe>>.

negotiating with the Irish Data Protection Authority to ‘reach a deal’ to allow it to use the data collected from WhatsApp.¹⁶²

In view of the above, the Commission predicted wrongly the incentives of Facebook and Google with regard to the data to which they would have had access after their respective mergers. These mistaken predictions suggest that in spite of data being ‘widely available’ and not within the merged firm’s exclusive control, the combination of specific data troves in possession of the merging entities may in some cases be quite attractive from a business standpoint, as a significant competitive advantage can be derived therefrom. They also suggest that the importance of ‘volume’ and ‘variety’ of big data may be greater than is acknowledged in the decisions examined above.¹⁶³

5.2.2 Problems with the Commission’s Criteria

It is submitted that, for the purpose of analysing a data-advantage, the criterion consisting in whether or not producing the data is costly and resource-intensive (whether the data is easily replicable or expensive and difficult to replicate) is a sound one. Indeed, in Opinion No. 10-A-13, the Autorité de la Concurrence explained that the criteria it uses to determine whether the use of customer datasets could result in a restriction of competition include the conditions under which the dataset was created, as well as whether the dataset could be replicated under reasonable conditions by competitors.¹⁶⁴ If a dataset is easily replicable, or replicable under ‘reasonable conditions’, barriers to entry are unlikely to arise.

However, the second criterion is problematic. In *Google/DoubleClick*, *Telefónica UK/Vodafone UK/Everything Everywhere* and especially in *Facebook/WhatsApp*, the Commission concluded that the concentration of data that could take place after the acquisition was unlikely to raise competition concerns, as there remained large amounts of data available to competitors. At first glance, this conclusion appears correct. After all, data can be obtained from third parties, and is inherently non-rivalrous and non-exclusive. These features define data’s wide availability and seem to reinforce the Commission’s

¹⁶² Phil Noble, ‘Facebook’s EU Regulator Says close to Deal on Sharing of WhatsApp Data’ (2017) *Reuters* <<http://www.reuters.com/article/us-facebook-whatsapp-idUSKBN17D1GW>>.

¹⁶³ On ‘volume’ and ‘variety’ see below Sections II.5.2.3.1 and II.5.2.3.2.

¹⁶⁴ Autorité de la Concurrence and Bundeskartellamt (n 95) 31.

conclusion. However, from a deeper analysis of these features, a more nuanced picture emerges: even if widely available, data is not fungible, and may not be readily accessible to entrants and competitors. Accordingly, even if widely available, data may still raise barriers to entry and confer market power.

5.2.2.1 Data can be Obtained from Third Parties

Data intermediaries, or data brokers, are “companies whose primary business is collecting personal information about consumers from a variety of sources and aggregating, analyzing, and sharing that information, or information derived from it, for purposes such as marketing products, verifying an individual’s identity, or detecting fraud.”¹⁶⁵ They routinely collect, maintain, manipulate and share information about consumers without interacting with them directly. Examples of data brokers are Axciom, Corelogic, Datalogic, ID Analytics, Intelius and Experian.

Data intermediaries collect data from several sources, including governmental sources, publicly available sources such as social media, blogs and the Internet, and commercial sources.¹⁶⁶ In particular, some data brokers obtain information “by crawling social media sites, such as Bebo and LinkedIn, where individuals have not set their privacy settings to restrict access to their information and the social media sites have given the data brokers access to such information”.¹⁶⁷ They can also obtain behavioural data derived from tracking cookies¹⁶⁸ or pixels,¹⁶⁹ or transaction-specific data about purchasers from retailers and catalogue companies. This data may include the types of purchases (for example, videogames, products associated with a medical condition or a sports activity), price and date of the purchase, and payment method used.¹⁷⁰

¹⁶⁵ FTC, ‘Data Brokers: A Call for Transparency and Accountability’ (2014) 3.

¹⁶⁶ *ibid* 11.

¹⁶⁷ *ibid* 13.

¹⁶⁸ Cookies are text files placed by websites’ servers on web browsers of users’ computers and mobile devices that record information about users’ interests and preferences. Such text files are sent back to the relevant server every time a specific user accesses a server’s page using the same browser.

¹⁶⁹ Pixels (or ‘beacons’) are single pixels which are invisible to users and embedded in a website or the body of an email. Each time a website or an email containing such pixel is open, it sends an image request to the server of the pixel owner, which allows the owner to track the event in combination with information such as the time of the event.

¹⁷⁰ FTC (n 165) 13.

5.2.2.2 Data is Non-rivalrous and Non-exclusive

Data is essentially non-rivalrous and non-exclusive,¹⁷¹ which means that the collection of certain data by a specific firm does not prevent other companies from gathering the same type of data through similar or other means and using such data for multiple purposes. Users regularly provide information such as gender, age, home address, and name upon registering for online services (for instance, when creating a profile on a social network or registering for online games), for which reason the same data is in possession of several firms at the same time. In addition, since the value of data derives from the insights it is possible to extract from it rather than from just amassing the data,¹⁷² different firms may extract the same knowledge from different sources and types of data. For instance, Apple may know the music preferences of a specific user based on his last purchases on iTunes, whilst Google may hold the same information based on the videos searched by the same user on YouTube.

Moreover, online platforms and firms in general do not have exclusive access to any specific user, as there is neither exclusive contracts with users nor pricing structure that may lock-in users to a specific platform or firm. Some argue that the lack of exclusivity over users is confirmed by the fact that users commonly ‘multi-home’, and therefore share their information with several online platforms and firms. For example, Lerner notes that “there is extensive user multi-homing whether one looks at websites that provide similar services (*e.g.*, general search providers such as Bing, Yahoo!, Google, and Ask!) or differentiated websites that nevertheless may compete for users with regard to a particular activity (*e.g.*, Amazon and Google)”.¹⁷³

5.2.2.3 Limitations to Data’s Features and Implications: Data is not Fungible, and may not be readily Available to all Undertakings

As noted in a report prepared for the White House, big data can be “bought, bartered, traded and sold”.¹⁷⁴ However, the data collected by data brokers is limited as compared to

¹⁷¹ CMA (n 93) 75.

¹⁷² Geoffrey A Manne and Ben Sperry, ‘The Problems and Perils of Bootstrapping Privacy and Data into an Antitrust Framework’ (2015) 2 CPI Antitrust Chronicle 9.

¹⁷³ Lerner (n 114) 22.

¹⁷⁴ Executive Office of the President (n 70) 50.

the volume and variety of data collected directly by large online platforms like Google or Facebook. For example, browsing data collected through tracking cookies or pixels is likely to be limited in scope and therefore imperfect substitutes with personal data voluntarily provided by users as a result of their interaction with a platform, since tracking cookies only render information on the websites that a given user has visited, but may not allow to gather detailed socio-demographic information, which may be particularly valuable.¹⁷⁵ As seen above, some data brokers obtain data from social media profiles with privacy settings disabled.¹⁷⁶ The data they are likely to obtain cannot possibly be compared to the data gathered from a social media platform operator, especially a dominant one. As will be seen below,¹⁷⁷ the greater the variety of data sources, the more valuable and accurate the predictions and insights that can be derived from data. Data brokers rely on restricted data sources, as opposed to vertically integrated super platforms like Apple or Google, which have *inter alia* mobile OSs, App Stores and Map apps to extract personal data from large customer bases. In this connection, writing in the US context, Newman observed:

“There has recently been a flurry of political interest in abusive practices by data brokers who buy and sell personal data, with major reports released by both the U.S. Senate and the Federal Trade Commission [...] it is worth noting that the companies involved are relative minnows in the big data ecosystem compared to the major big data platforms [...] Experian is one of the largest at \$4.8 billion in sales per year, while Acxiom, a data broker often cited as having one of the largest datasets on consumers, has only about \$1 billion per year in revenue. Even collectively, these data brokers are dwarfed by a company like Google with over \$60 billion in annual revenue.”¹⁷⁸

The fact that data brokers’ data is limited in scope suggests that its impact in terms of data availability is likely to be also limited. As a matter of fact, the CMA observes that “the more sensitive the type of data, the less likely it is to be available from an intermediary.”¹⁷⁹

Moreover, the fact that data is non-rivalrous and non-exclusive should not lead to broad statements such as ‘data is widely available’. It is true that consumers can surrender the same kind of data to different offline and online service providers, and that the same data can be used by multiple firms to draw inferences, create consumer profiles or for myriad

¹⁷⁵ Autorité de la Concurrence and Bundeskartellamt (n 95) 40.

¹⁷⁶ See above Section II.5.2.2.1.

¹⁷⁷ See below Section II.5.2.3.2.

¹⁷⁸ Newman (n 92) 15.

¹⁷⁹ CMA (n 93) 82.

of other purposes. But the fact that two or more companies could have the same data does not necessarily entail that they will have it.¹⁸⁰ Apple and Google can both have profiles of the same consumer, but that hardly means that the comprehensiveness of such profiles is the same, or that both companies have made the same inferences. Moreover, although certain data is effectively non-exclusive, “a lot of data that are of particular relevance for companies are in the exclusive control of the companies that collected it and that, therefore, decide about its use, often denying access to competitors”,¹⁸¹ as for example, search data derived from queries entered in websites having exclusive search and search advertising syndication agreements with Google,¹⁸² Facebook’s user profiles,¹⁸³ or Yelp’s and TripAdvisor’s user reviews.¹⁸⁴

Yet, these considerations seem to be overlooked in the Commission’s assessments outlined above.¹⁸⁵ In its *Facebook/WhatsApp* merger decision, the Commission held that the transaction would only raise competition concerns if the concentration of data within Facebook’s control were to allow it to strengthen its position in advertising,¹⁸⁶ and dismissed that scenario because there were ‘a significant number of market participants that collect user data alongside Facebook’, including Google and other companies such as *inter alia* Apple, Amazon, eBay, Microsoft, AOL, Yahoo!, Twitter, IAC, LinkedIn, Adobe and Yelp,¹⁸⁷ and there would be a large amount of Internet user data valuable for advertising purposes not within Facebook’s exclusive control.¹⁸⁸ For illustrative purposes, the Commission calculated the share of data collection across the Internet:¹⁸⁹

¹⁸⁰ Robert Mahnke, ‘Big Data as a Barrier to Entry’ (2015) 5 Antitrust Chronicle 3.

¹⁸¹ Schepp and Wambach (n 76) 2; In the same vein CMA (n 93) 87.

¹⁸² European Commission (n 125).

¹⁸³ Facebook (n 126).

¹⁸⁴ FTC Staff (n 56) 34–36.

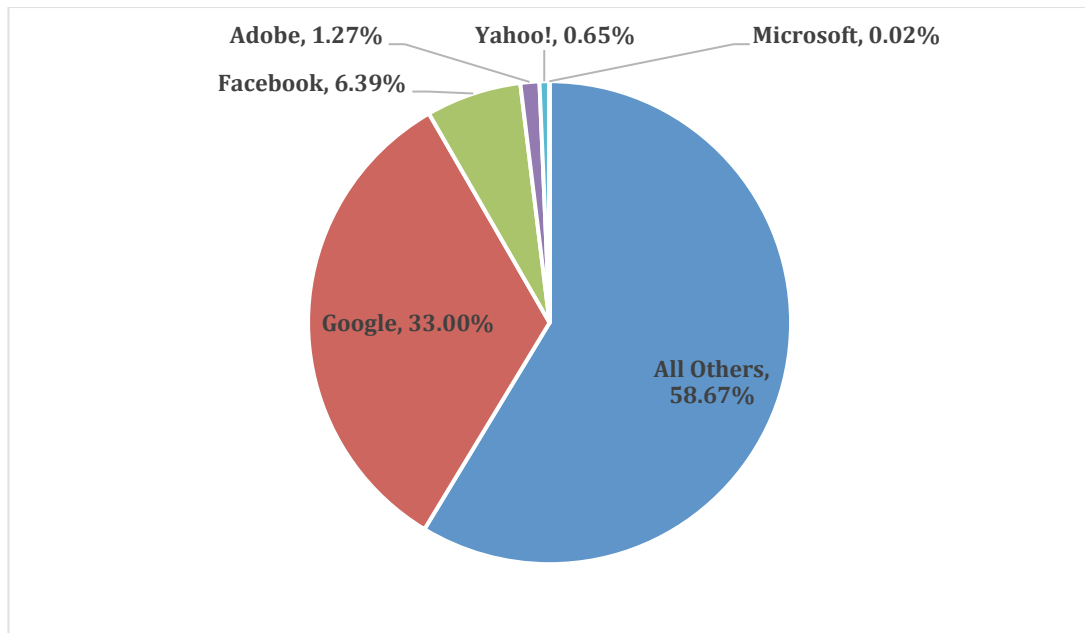
¹⁸⁵ See Section II.5.1 above.

¹⁸⁶ See above text accompanying footnote 155.

¹⁸⁷ *Facebook/WhatsApp* (n 150) [188].

¹⁸⁸ See above text accompanying footnote 156.

¹⁸⁹ *Facebook/WhatsApp* (n 150) [188].



The problem with the Commission's line of reasoning and its calculation of data collection share above is that it confuses 'data being available' with 'data being fungible': the fact that data is widely available does not entail that all data is substitutable with each other. As Mahnke observes, "[t]here are data, and then there are data",¹⁹⁰ and it is highly uncertain whether the data Microsoft, Twitter, Adobe and Yelp collect are equally valuable to Facebook for its advertising business as the data it could collect from WhatsApp after the consummation of the merger. Data is not fungible, for which reason the relevance of some kind of data is likely to vary to a great extent with respect to different business models.¹⁹¹ For example, the information social network platforms have on their users is likely to be as rich or even richer than that gathered by search engines from search queries, but unlike social network data, search data have the advantage of allowing to identify consumers who are in active search for a specific product or service,¹⁹² as a result of which they are unlikely to be substitutable.

Curiously enough, the Commission has engaged in assessments of substitutability of data in other cases. As seen above, the Commission concluded in *TomTom/Tele Atlas* that digital map databases for non-navigational purposes could not be deemed substitutes to navigable digital map databases, as these databases have much more detailed information (such as road type, road class, traffic flow information and turn restrictions) and are

¹⁹⁰ Mahnke (n 180) 3.

¹⁹¹ Schepp and Wambach (n 76) 121.

¹⁹² Autorité de la Concurrence and Bundeskartellamt (n 95) 44.

therefore more costly and time-consuming to produce.¹⁹³ Similarly, in *Telefónica UK/Vodafone UK/Everything Everywhere* joint venture decision, the Commission found that there were possibly separate markets for static online and mobile data analytics,¹⁹⁴ as data analytics for static online advertising cannot be substituted by data analytics for mobile advertising. Lack of substitutability arose from the fact that the two services collect “different type of information and amount of consumer details”; for example, “the information collected via mobile data analytics is usually more personal, geo-located, and can be cross referenced with call behaviour, which cannot be offered by online data analytics to a comparable extent.”¹⁹⁵ It is submitted that distinctions between data like this are more suitable to arrive to a sound conclusion as to the competitive implications of any given concentration of data (i.e. whether it confers market power) than calculating data collection shares on the Internet in broad terms and dismissing competitive risks on grounds of (alleged) availability of data that are not within the merged firm’s (or the dominant firm’s) exclusive control.

In addition, the Commission’s assessment also confuses ‘availability of data’ with ‘accessibility to data’. Other competitors may collect data alongside Facebook, and there might have well been a large amount of data up for grabs post-transaction, but that hardly means that Facebook’s actual and potential competitors will have ready access to the kind of data Facebook was able to access post-merger:

- Any entrant that wishes to compete in an online platform market (for example, in a search engine, social network or App store market) must build a platform capable of providing services capable of competing with those of the incumbent. Setting up a platform demands high investments in R&D. For example, FTC Staff found that search and search advertising platforms “require enormous investments in the technology and infrastructure required to crawl and categorize the entire Internet”, noting that Microsoft invested in 2010 more than USD 4.5 billion to develop its algorithms and building the physical capacity necessary to operate Bing.¹⁹⁶ In addition, the collection, storage, processing and analysis of user

¹⁹³ See above text accompanying footnote 132.

¹⁹⁴ *Telefónica UK/Vodafone UK/Everything Everywhere/JV* (n 144) [202].

¹⁹⁵ *ibid* [200].

¹⁹⁶ FTC Staff (n 56) 76.

data involves substantial fixed costs and low or negligible marginal costs,¹⁹⁷ which means that established firms have cost advantages over entrants in this regard.

- Setting up the platform is not enough. To launch an effective challenge (and therefore to have access to the data necessary to compete), competitors must be able to attract a sufficiently large user base. To this effect, they must overcome direct and/or indirect network effects.¹⁹⁸ This task may not be precisely easy. Additionally, as will be seen below,¹⁹⁹ economies of scale, scope and speed, trial-and-error and spill-over effects interact in a positive feedback loop which enhances the quality (and hence the attractiveness) of the incumbent's products and services in online platforms markets, thereby making a successful challenge against it all the more difficult. This difficulty may be compounded even further by switching costs or status quo bias²⁰⁰ arising from an unmatched distribution channel (such as for example, a search engine app preinstalled in a dominant mobile OS).

In view of the above, the fact that data is non-rivalrous and generally non-exclusive does not entail that data is fungible and readily accessible to any firm. A particularly comprehensive dataset, such as for example, navigable digital map databases, social media sentiment analysis²⁰¹ or a searchable index of the Web, may be composed of non-rival and non-exclusive data, but it does not follow that such data is substitutable with other data (such as locational data or browsing data), or that said data is readily accessible to competitors (as compiling such data may be prohibitively costly or time-consuming). To reach sound conclusions as to the competitive significance of data, any assessment of whether a data advantage may lead to market power and anticompetitive risks must account for these factors on a case-by case basis.

¹⁹⁷ CMA (n 93) 75.

¹⁹⁸ See above Section I.3.1.

¹⁹⁹ See below Section II.5.2.3.

²⁰⁰ See for example *Facebook/WhatsApp* (n 150) [111].

²⁰¹ 'Take, for example, Facebook's analysis of how emotions, expressed and created by the information posted on its website, affect people's conduct. Duplicating such emotional interactions may be difficult and costly.' Rubinfeld and Gal (n 79) 351.

5.2.3 The Role of ‘Volume’, Trial and Error/Learning-By-Doing, ‘Variety’, ‘Velocity’ and Spill-Overs

The extent of the competitive advantage arising from data depends largely on its scale (‘volume’), scope (‘variety’) and the velocity with which it is collected and processed. In addition, there are ‘trial and error’ or ‘learning-by-doing’ effects²⁰² and spill-overs feeding the positive feedback loop between big data and big analytics.²⁰³ These factors must be central in the analysis of any data-advantage.

5.2.3.1 Volume (scale of data) and Learning-by-doing

Scale of data and learning-by-doing effects are of the essence for the successful operation of a search engine. As noted above, online search services are provided free of charge, for which reason search engines compete on the basis of quality and innovation.²⁰⁴ Perhaps the most important dimension of quality is the provision of fast ‘relevant’ search results to users. When confronted with a given search query, the search engine must ‘guess’ which links the user entering the query is more likely to click on.²⁰⁵ The ‘guessing’ process operates as follows:

“When a consumer enters search terms, those terms are processed by the search engine’s mathematical algorithms, which determine the probability that any given webpage will be responsive to the search. The user then receives results that are rank-ordered based on the search engine’s judgment of the likelihood that each result matches what the user was seeking in entering the search terms. This process necessarily depends on multiple variables and constant refinement.”²⁰⁶

By observing on which links a user clicks after entering a search query, the search engine is able to determine the likely relevance of the links to said user, and to rank them accordingly (i.e. moving them up or down). The more users a search engine has, the more

²⁰² Stucke and Grunes (n 72) 170.

²⁰³ See above Section II.2.

²⁰⁴ See generally Maurice E Stucke and Ariel Ezrachi, ‘When Competition Fails to Optimize Quality: A Look at Search Engines’ (2016) 18 Yale Journal of Law and Technology 70.

²⁰⁵ For example, if a user enters the query ‘Beatles’, the search engine must guess whether the user is looking for the band, the Volkswagen car, or the insect.

²⁰⁶ Presentation of Eric Schmidt in ‘The Power of Google: Serving Consumers or Threatening Competition?’ Hearing before the Subcommittee on Antitrust, Competition Policy and Consumer Rights, US Senate Judiciary Committee 2011.

data the search engine has at its disposal to improve the relevance of its results, and therefore the more trials its algorithms will be able to conduct to guess consumer preferences. Accordingly, there is a mutually reinforcing relationship between data, trials and quality: more data enables more trials, thereby leading to enhanced quality, and greater quality, in turn, attracts more users, in a positive feedback loop that strengthens the incumbents' position.

In *Microsoft/Yahoo! Search Business*,²⁰⁷ the Commission analysed Microsoft's acquisition of Yahoo!'s business in online search and search advertising. The Commission observed that "scale is an important element to be an effective competitor", and that the majority of respondents to the market investigation considered that Microsoft did not have enough traffic volume to be an attractive alternative to Google.²⁰⁸ In addition, it found that "the effects of scale [were] likely to allow the merged entity to run more tests and experiments on the algorithms in order to improve its relevance."²⁰⁹ The Commission ultimately approved the merger, as it predicted that the merged entity would enjoy greater scale of data and therefore would be able to improve its algorithms through trial and error, thereby exerting more competitive pressure on Google. Therefore, in the eyes of the Commission, the accumulation of big data is likely to confer a competitive advantage under certain circumstances.

The OECD confirmed the Commission's findings, noting that there are 'increasing returns to scale' from data collection. The OECD noted, in particular, that:

"[t]he accumulation of data can lead to significant improvements of data-driven services which in turns can attract more users, leading to even more data that can be collected [...]. For example, the more people use services such as Google Search, or recommendation engines such as that provided by Amazon, or navigation systems such as that provided by TomTom, the better the services as they become more accurate in delivering requested sites and products, and providing traffic information, and the more users it will attract."²¹⁰

²⁰⁷ Case COMP/M5257, *Microsoft/Yahoo! Search Business* (2010).

²⁰⁸ *ibid* [153].

²⁰⁹ *ibid* [223]; The DOJ arrived at similar conclusions. See DOJ, 'Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc.' (2010) <<https://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet>>.

²¹⁰ OECD (n 67) 29.

These increasing returns to scale, however, are not infinite. In *Microsoft/Yahoo! Search Business*, Google observed, and Microsoft acknowledged, that “the value of incremental data decreases as the amount of data increases.”²¹¹ Put in other words, there are “diminishing returns to user data scale.”²¹² This would be particularly the case of queries frequently entered by users (also known as ‘head queries’), such as queries related to celebrities (e.g. ‘Angelina Jolie’) or notable events (e.g. ‘World Cup’), the marginal value of which “is likely to be minimal, or even zero, at a very low scale for a search provider”.²¹³ Thus, a search engine holding search data for 10,000 previous queries for ‘Angelina Jolie’ is capable of rendering the most relevant results just as another search engine having entertained that query on 100,000 occasions.

There are two problems, however, with the ‘diminishing returns to scale’ argument: (i) it does not identify the point at which the returns to scale taper off (i.e. the ‘optimal scale’ to operate is uncertain), and (ii) it does not distinguish between different types of queries.

In the FTC investigation into Google, the minimum efficient scale for the successful operation of a search engine was a contentious issue. Google argued that whilst scale matters, ‘it only matters up to a point’, and as a ‘rough rule of thumb’, “as query volume doubles, a search engine might expect to see a one percent increase in quality.”²¹⁴ Google also contended that Microsoft had passed already the point at which scale matters, and that “any volume gains made by Bing would yield minimal improvements in either Bing’s search quality or its monetization ability.”²¹⁵ Microsoft logically disagreed. This issue has not been settled. The FTC Staff concluded:

“The main bone of contention between Google and Microsoft is *where on this scale curve* Microsoft currently operates. This is an important question, but one which evade easy answers. This is, in part, because neither party can identify a fixed number of queries or ads that constitutes the “minimum efficient” point of operation.”²¹⁶

Moving on to the second problem, the value of incremental data may be negligible for frequent queries, but that is not the case of queries that are infrequently made (known as

²¹¹ *Microsoft/Yahoo! Search Business* (n 207) [174].

²¹² Lerner (n 114) 35.

²¹³ *ibid* 36.

²¹⁴ FTC Staff (n 56) 16.

²¹⁵ *ibid*.

²¹⁶ *ibid*.

‘tail’ queries), which include misspelled queries, addresses, product descriptions, model numbers and detailed queries comprised of several terms, in respect of which greater scale provides a competitive advantage. For these queries, a greater amount of user click and query data is indeed valuable, since this information may contain data for said tail queries. A search engine with small scale may have no data on user clicks in response to the same or similar queries previously entered by users, whereas a large search engine may have an advantage over smaller search engines to the extent that it has seen the same (or a similar) tail query before.²¹⁷ Illustrating this point, Stucke and Ezrachi give a theoretical example of two search engines, one having five million daily search queries and the other 5 billion:

“Suppose a search, such as “law and economics professors” and NCAA, averages one per 10 million searches. The smaller search engine will get one search every two days while the larger search engine gets 500 queries per day. If tail queries make up a significant component of daily searches, then the larger search engine will enjoy an inherent advantage.”²¹⁸

Increasing returns to scale and learning-by-doing are not exclusive to search engines; they actually underpin algorithmic technology and AI in general. For instance, the Economist recently observed:

“The more users write comments, “like” posts and otherwise engage with Facebook, for example, the more it learns about those users and the better targeted the ads on newsfeeds become [...]

Facebook gets its users to train some of its algorithms, for instance when they upload and tag pictures of friends. This explains why its computers can now recognise hundreds of millions of people with 98% accuracy. Google’s digital butler, called “Assistant”, gets better at performing tasks and answering questions the more it is used.”²¹⁹

Similarly, Amazon’s recommendation engine ‘you may also like...’ also learns from personal data in order to render recommendations to customers based on its ‘collaborative filtering’ technology.²²⁰ The same applies to Waze’s turn-by-turn navigation App: the more people that actively or passively contributes data to Waze, the more

²¹⁷ Lerner (n 114) 38.

²¹⁸ Stucke and Ezrachi (n 204) 94.

²¹⁹ ‘Data Is Giving Rise to a New Economy’ (2017) *The Economist* <<http://www.economist.com/news/briefing/21721634-how-it-shaping-up-data-giving-rise-new-economy>>.

²²⁰ See above text accompanying footnote 42.

accurate and fresher the mapping data becomes, and the more likely is that others would use the app.²²¹

Last but not least, Google's 'Assistant', Apple's Siri, Microsoft's Cortana and Facebook's 'M' personal assistant are also examples of technology that benefits from increased scale and trial and error. Notably, when it comes to AI, the 'diminishing returns to scale' argument loses validity even further. Machine learning is self-teaching, and the more and the fresher the data they are fed, the better. Indeed, marginal returns from data may actually go up as applications multiply. According to Weyl, for example, "after a ride-hailing firm has collected enough data to offer one service – real-time traffic information, say-more data may not add much value. But if it keeps collecting data, at some point it may be able to offer more services, such as route planning."²²²

5.2.3.2 Variety (scope of data)

Depending on the usage of data, the scope of data may be as important as its scale.²²³ The integration of data from different sources may significantly increase the value of the dataset.²²⁴ For example, going back to the search engines, to deliver relevant results in response to queries a search engine has never seen before, data from different sources may be required. Relevance of results returned to a query consisting in a specific product model number, for instance, can depend on whether the search engine has 'crawled' web pages containing such exact model number, or whether such data is obtained from other sources such as product data feeds from manufacturers or retailers.²²⁵

If a platform offers a variety of services that collect data, economies of scope are likely to arise insofar as data linkage is possible. Linked data is a source of 'super-additive insights' and value that are greater than the sum of its isolated parts (data silos).²²⁶ As Schepp and Wambach explain:

²²¹ Stucke and Grunes (n 72) 171.

²²² Glen Weyl in 'Data Is Giving Rise to a New Economy' (n 219).

²²³ Autorité de la Concurrence and Bundeskartellamt (n 95) 51.

²²⁴ Rubinfeld and Gal (n 79) 347.

²²⁵ Lerner (n 114) 38, footnote 123.

²²⁶ OECD (n 67) 29.

“The linkage of these data [i.e. from different sources] can give companies more insights into user habits, enabling them to further improve their services and reinforce their market position. Generally speaking, the more data a company can combine, the better its chances to gain knowledge that can be used to strengthen its market position.”²²⁷

Google is perhaps the most salient example of data-related economies of scope. Not only does it collect consumer data from its search engine, but also from a plethora of data-intensive products and services it offers at zero-prices, such as its mobile operating system (Android), web browser (Chrome), email service (Gmail), video streaming site (YouTube), mapping service (Google Maps), social networking service (Google Plus), website analytics tool (Google Analytics), cloud platform service (Google Apps), and many others,²²⁸ in addition to the products offered by its ad-serving companies DoubleClick and AdMob. By the same token, Amazon guides the consumers’ shopping experience and “guesses” what sort of products a consumer may like by applying data collected from its e-commerce platform, ad-serving tools and Kindle devices.²²⁹ Diverse datasets allow large online platforms to create highly detailed user profiles that could not be created with each single service.²³⁰

The Commission acknowledged to some extent the importance of the scope of data. In *Google/DoubleClick*, it noted:

“Competition based on the quality of collected data thus is not only decided by virtue of the sheer size of the respective databases, but also determined by the different types of data the competitors have access to [...]”²³¹

According to the ICO, many industry players contend that the most important characteristic of big data is variety.²³² This is particularly the case in the world of AI. Writing on Facebook’s digital assistant ‘M’, Stucke and Grunes explain that the more users rely on Facebook’s other services (such as its social network platform or its WhatsApp app), the greater the variety of personal data on particular users, the better the

²²⁷ Schepp and Wambach (n 76) 121.

²²⁸ Omer Tene and Jules Polonetsky, ‘Big Data for All: Privacy and User Control in the Age of Analytics’ (2013) 11 *Northwestern Journal of Technology and Intellectual Property* 239, 250.

²²⁹ Wohlsen (n 35).

²³⁰ OECD (n 67) 29.

²³¹ *Google/DoubleClick* (n 137) [273].

²³² ICO (n 97) 7.

digital assistant can segment results by user profiles, and the better the digital assistant can personalise results. They conclude:

“So the feedback loop adds a dimension: it is no longer the trial-and-error, learning-by-doing from earlier queries, but trial-and-error in predicting individual tastes and preferences from the variety of personal data the company collects across its platform (such as the person’s email, geo-location data, social network, browser history) and Internet (from the cookies placed when the person visits a website). Now the digital assistant – in personalizing results – can target users with specific sponsored advertisements that they will more likely click (thereby generating more revenue for the platform operator).²³³

5.2.3.3 Velocity (economies of speed)

The value of data is essentially variable. As a general rule, the most valuable data are ‘predictive’ data, that is, data relating to future likely purchases, or from which a purchase intent can be inferred, such as data on particular products a consumer has been searching for, click-on behaviour and locational data; however, the value of this data is transitory, being relevant over a limited period of time.²³⁴ The velocity of data acknowledges its time-value.²³⁵

As some types of data lose its value rather quickly,²³⁶ online platforms have the necessity to keep gathering up-to-date information about diverse events and the interests and preferences of users in order to be able to return relevant responses and deliver targeted advertising services.²³⁷ First access to data and the ability to process it in real-time confer a competitive advantage under certain circumstances.

If users’ interests suddenly change as a consequence of a recent event, online platforms need to react rapidly and adapt to the new scenario. Having access to data flowing from

²³³ Stucke and Grunes (n 72) 186–187.

²³⁴ CMA (n 93) 76; However, other data has more persistent value, such as users’ names and dates of birth or data relating to customer transaction history on auction sites like eBay. See Alex Chisholm, ‘Alex Chisholm Speaks about Online Platform Regulation.’ (2015) *CMA* <<https://www.gov.uk/government/speeches/alex-chisholm-speaks-about-online-platform-regulation>>.

²³⁵ Stucke and Grunes (n 72) 21.

²³⁶ For example, current locational data is important for search queries such as “restaurants near me”, but historic location data is clearly of less value in this regard.

²³⁷ Inge Graef, ‘Market Definition and Market Power in Data: The Case of Online Platforms’ (2015) *World Competition* 38, No. 4 473, 483.

the largest established user base is key for quick adaptation. As noted by Microsoft's consultant Susan Athey:

“When Michael Jackson died, for instance, there was a huge spike in internet traffic, and the search engine companies wanted to be able to figure out in the first 30 seconds to stop sending people to general pages about the performer and start sending them instead to the latest news. By using the latest data — crowd-sourcing what you want — a search engine can be a quick learner.

All search engines try to do that, but how well they do it is a function of how fast they get the data. So Google will do it faster than Bing, because more people come to Google first.”²³⁸

In the case of platforms with user-generated content, the benefits of having a large user base to show relevant and updated content are obvious. For example, within the first twelve hours of news that David Bowie had died, thirty-five million people had one hundred million interactions about Bowie's passing on Facebook.²³⁹

Another example of ‘economies of speed’ is “nowcasting”. Rubinfeld and Gal define nowcasting as “the capacity of a company to use the velocity at which a data set grows to discern trends well before others.”²⁴⁰ Nowcasting enables undertakings to make real-time forecasts (or “nowcasts”) of phenomena and users’ and even competitors’ behaviour, and to respond more quickly accordingly.²⁴¹ For instance, it has been reported that

“[b]y analysing patterns from mobile phone usage, a team of researchers in San Francisco [was] able to predict the magnitude of a disease outbreak half way around the world. Similarly, an aid agency [saw] early warning signs of a drought condition in a remote Sub-Saharan region, allowing the agency to get a head start on mobilising its resources and save many more lives”.²⁴²

Nowcasting is already making inroads into some industry segments. For example, partnering with Google, Auction.com, an online real estate auction firm, recently launched

²³⁸ Kathleen O’Toole, ‘Susan Athey: How Big Data Changes Business Management’ (2013) *Stanford Graduate School of Business* <<https://www.gsb.stanford.edu/insights/susan-athey-how-big-data-changes-business-management>>.

²³⁹ Colin Stutz, ‘David Bowie’s Death Leads to 100 Million Facebook Interactions in First 12 Hours’ (2016) *Billboard* <<http://www.billboard.com/articles/columns/rock/6836601/david-bowie-death-100-million-facebook-interactions-12-hours>>.

²⁴⁰ Rubinfeld and Gal (n 79) 353.

²⁴¹ *ibid.*

²⁴² World Economic Forum, ‘Big Data, Big Impact: New Possibilities for International Development’ (2012) 2 <http://www3.weforum.org/docs/WEF_TC_MFS_BigDataBigImpact_Briefing_2012.pdf>.

the first ‘nowcast’ of the real estate industry, “a new housing report that combines industry data, proprietary company transactional data and publicly available Google Trends data to predict market trends *as they are occurring* – weeks before the findings of other benchmark studies are released.”²⁴³ Notably, Auction.com’s press release refers to “the power of Google search trends to predict economic outcomes.”²⁴⁴

Accordingly, the competitive significance of data, and the ability to extract value therefrom, depends partly on the ability of undertakings to access, process and monetise it as quickly as possible.²⁴⁵

5.2.3.4 Spill-overs (network effects amplified by data-driven network effects)

As explained above, online platforms are characterised by indirect, and sometimes direct, network effects.²⁴⁶ These effects are amplified by increasing returns to scale, learning-by-doing, increasing returns to scope and economies of speed, thereby giving rise to spill-overs between the different sides of the relevant MSP.

Take the example of Facebook’ social networking platform. On the user side, more users increase the value of the platform to other users, thereby attracting more users and traffic. This increased number of users and traffic translates into more data. The more data users provide, the more data the social network has to carry out experiments to render more ‘relevant’ social network interactions and generally make its platform more attractive to users. At the same time, increased volume, variety and velocity of data help to improve ad-targeting, thereby increasing advertising revenues, and also allow for the development of new products and services that increase the platform’s data collection capacity. More users and improved ad-targeting in turns attract more advertisers, thereby increasing advertising revenues even further. The data the platform collects can be processed and reprocessed for its subsequent use on any side of the MSP. As the OECD observes:

²⁴³ Peter Muoio, ‘Auction.com Launches Real Estate’s First “Nowcast”’ (2014) *Auction.com* <<https://www.auction.com/blog/auction-com-launches-real-estates-first-nowcast/>>.

²⁴⁴ *ibid.*

²⁴⁵ Stucke and Grunes (n 72) 46.

²⁴⁶ See above Section I.3.1.

“The reuse of data generates huge returns to scale and scope which lead to positive feedback loops in favour of the business on one side of the market, which in turn reinforces success in the other side(s) of the market.”²⁴⁷

When a platform is highly vertically integrated, spill-overs are likely to be more pronounced:

“[C]onsumers that appreciate customized search results and ads by Google’s search and webmail platform will spend more time on the platform, which allows Google to gather even more valuable data about consumer behavior, and to further improve services, for (new) consumers as well as advertisers (on both sides of the market). These self-reinforcing effects may increase with the number of applications provided on a platform, e.g. bundling email, messaging, video, music and telephony as increasing returns to scope kicks in and even more information becomes available thanks to data linkage.”²⁴⁸

These self-reinforcing effects are likely to lead to a worrisome scenario: big platforms become bigger and barriers to entry are raised, which aids them to attain, maintain and strengthen their dominant position, and to leverage market power onto adjacent markets.²⁴⁹

III. Conclusions, a Data-Advantage Test and a Few Caveats

The business models of online platforms tend to be complex. It is of the essence to understand the manner in which online platforms are organised and earn their profits in order to decide correctly when to intervene. Competition authorities must be mindful of online platforms’ main features, as network effects, asymmetric pricing schemes and the collection and processing of personal data are capable of raising issues of great complexity and severity that deserve their special attention.

The assessment of whether any advantages arising from big data and big analytics confer market power upon a specific firm is a highly intricate one, and must be carried out on a case-by-case basis.

²⁴⁷ OECD (n 67) 29.

²⁴⁸ *ibid.*

²⁴⁹ See Chapter 5 text accompanying footnote 192.

The Commission's criteria to assess the data advantage are, at first glance, reasonable and pragmatic, as they essentially consider data as an asset. If it is costly and time-consuming to produce or replicate, data raises barriers to entry and may confer market power; if it is widely available and not under the exclusive control of a firm, anticompetitive risks are unlikely.

However, as seen above, such analysis is too simplistic. The fact that data is inherently non-rivalrous and in principle non-exclusive does not mean that data is fungible. Some types of data are not substitutable with other types of data. And even if, on account of such features, data is available from different sources, it may not be readily accessible in the volume, variety and velocity needed to compete against a platform incumbent.

Indeed, data is an asset, but not an ordinary one. Its competitive significance depends largely on its volume, variety and the velocity with which it is accessed and analysed. The magnitude of these three 'V's of data and data's interaction with big analytics, in turn, determine the 'Value' extracted therefrom, which as seen above, is likely to be augmented by network effects and spill-overs on the different sides of the relevant MSP. Positive feedback loops are likely to reinforce the incumbent's position and allow it to expand onto related markets to increase its data-advantage even further.

Therefore, even if widely available and not under a firm's exclusive control, access to data on the scale, scope, and with the velocity available to the incumbent, taking into account direct, indirect and data-driven network effects, may in fact be costly and resource-intensive. Accordingly, the following test to assess a data advantage is proposed:

Whether accessing the data on the scale and scope, and with the velocity available to the incumbent, is costly, resource-intensive and time-consuming for entrants and competitors to replicate.

Under this test, the wide availability of data is no longer important, as even though data is non-rivalrous and non-exclusive, to compete effectively in a market, it may be necessary to access and process data on a scale and scope, and with a speed at least similar to that available to the platform incumbent. This test will be applied in Chapter 3²⁵⁰ to determine

²⁵⁰ See Chapter 3 Sections II.5.1, II.5.2 and II.5.3.

whether a data advantage enjoyed by the incumbents in the markets for search engines, social networks and online marketplaces raises barriers to entry.

Caveats

It is not suggested here that big data will always lead to competition problems;²⁵¹ rather, this Chapter attempts to contribute to the debate on big data and competition policy by determining big data's actual competitive significance, and the manner in which big data's four 'V's, in conjunction with traditional and data-driven network effects and other factors, may impact competition.

In this debate, some big players are not playing fairly. For example, to dismiss the importance of data, Google resorted to the academia. It has been reported that from the beginning of the FTC investigation through 2013, Google gave USD 762,000 to the George Mason University's Law and Economics Center (LEC), in exchange of which the "LEC issued numerous studies supporting Google's position that they committed no legal violations, and hosted conferences on the same issues where Google representatives suggested speakers and invitees."²⁵² In addition, between 2009 and 2015, there were at least 66 published studies by over 45 academics 'commissioned by Google', 'funded by Google, or 'supported by a gift from Google Inc.' All of such studies take Google's side on competition, data, privacy and other related issues.²⁵³ Relatedly, Google's chairman argued in a speech in Berlin: "[o]ur experience is that you don't need data to compete online."²⁵⁴

Practices and statements like those referenced above do not advance the debate on big data; rather, they polarise it between 'black or white' propositions (i.e. data is not necessary to compete / data is of the essence to compete) and are proof of the reproachable efforts deployed by some incumbents to create confusion about big data in

²⁵¹ Actually, at the time of writing, no competition authority or court has found yet a *per se* data-advantage capable of lessening competition.

²⁵² David Dayen, 'Google's Insidious Shadow Lobbying: How the Internet Giant Is Bankrolling Friendly Academics—and Skirting Federal Investigations' (2015) *Salon*
<http://www.salon.com/2015/11/24/googles_insidious_shadow_lobbying_how_the_internet_giant_is_bankrolling_friendly_academics_and_skirting_federal_investigations/>.

²⁵³ *ibid.*

²⁵⁴ Eric Schmidt, 'The New Gründergeist' (2014) *Google Europe Blog*
<<https://europe.googleblog.com/2014/10/the-new-grundergeist.html>>.

order to preserve the status quo.²⁵⁵ It is worth quoting here some prior statements from Google's top executives:

"Sale is key. We just have so much scale in terms of the data we can bring to bear."²⁵⁶

"We don't have better algorithms than everyone else; we just have more data."²⁵⁷

"Never delete anything, always use data – it's what Google does."²⁵⁸

These statements suggest that data is indeed quite important to Google, despite its current efforts to try to convince otherwise policy-makers, competition enforcers and the public in general.

It is not suggested here either that dominance follows invariably from big data. After all, dynamic markets are characterised by rampant innovation, and today's leader may be tomorrow's laggard. Commonly cited examples of entrants displacing incumbents in dynamic markets are Google and Facebook, which dethroned Yahoo! and MySpace respectively.

However, these examples of successful entrants are not necessarily illustrative of current entry conditions, as these conditions might have changed since their time of entry.²⁵⁹ For example Yahoo! in the beginning was a man-made index of the web with each URL, and did not rely on the collection of data to make profits.²⁶⁰ Moreover, Yahoo! did not develop its search engine until 2002, having relied previously on Google's search technology, which probably gave Google the scale necessary to improve its own search engine and leapfrog Yahoo!. Other factors may come into play. According to Gehl,

²⁵⁵ See Chapter 5 Section II.5.2.2.

²⁵⁶ Statement of Google's Chairman Eric Schmidt (2009) in Fair Search, 'Fact-Checking Google: Scale Is a Barrier to Entry in Search' (2011) *Fair Search* <<http://fairsearch.org/fact-checking-google-scale-is-a-barrier-to-entry-in-search/>>.

²⁵⁷ Google's chief scientist Peter Norvig in Matt Asay, "Tim O'Reilly: "Whole Web" Is the OS of the Future" (2010) *CNET* <<https://www.cnet.com/news/tim-oreilly-whole-web-is-the-os-of-the-future/>>.

²⁵⁸ Google Cloud Platform's director of product management Tom Kershaw in Quentin Hardy, 'Google Offers Cheap Storage for Certain Kinds of Data' (2015) *Bits Blog* <<https://bits.blogs.nytimes.com/2015/03/11/google-offers-cheap-storage-for-certain-kinds-of-data/>>.

²⁵⁹ Autorité de la Concurrence and Bundeskartellamt (n 95) 30.

²⁶⁰ 'History of Search Engines - Chronological List of Internet Search Engines' (2011) *Wordstream*, <<http://www.wordstream.com/articles/internet-search-engines-history>>.

MySpace's demise was due partly to problems with vandalism, phishing, malware and spam which it failed to curtail, making the site seem inhospitable.²⁶¹

Therefore, current entry conditions must be clarified, in particular the extent to which the significance of data is higher today for the development of new products and services than it was a decade ago, as well as the importance of traditional and data-driven network effects in specific markets.

²⁶¹ Robert W Gehl, 'Real (Software) Abstractions on the Rise of Facebook and the Fall of MySpace' (2012) 30 *Social Text* 99.

CHAPTER 3. Market Definition and Dominance in Online Markets

Introduction

As explained in Chapter 1, proponents of the hands-off approach demand less intervention in digital markets, pointing out to some enforcement challenges: traditional market definition tools are unsuited to online markets; the ensuing structural presumptions are bound to lead to mistaken conclusions (i.e. overstating market power in the assessment of dominance), and the traditional price-oriented competition framework sits at odds with online markets in which consumers enjoy products or services at zero-prices. In view of said difficulties, intervention by competition authorities is likely to punish procompetitive conduct, to the detriment of consumers.¹ At the other end of the spectrum, proponents of the regulatory approach argue that the passing of new regulation applicable to ‘online platforms’ is the only way to ensure fair competition in digital markets.²

This Chapter demonstrates that the aforementioned views are mistaken. Admittedly, multisidedness, product differentiation, innovation and the collection of data complicate market definition in online industries, and too much reliance on strict boundaries may lead to erroneous inferences about market power and the effects of dominant firms’ practices. However, by being aware of these market definition challenges and factoring them in at some point in the competitive assessment, the competition dynamics of online markets can be readily accounted for in Article 102 TFEU cases.

In support of this contention, this Chapter defines the product markets³ for search engines, social networks and e-commerce platforms, taking Google, Facebook and eBay, respectively, as the central point of analysis. These industry segments and respective platform leaders were chosen on account of their extreme popularity: according to the

¹ See Chapter 1 Section III.1.

² See Chapter 1 Section II.1.

³ The analysis of geographic market definition is excluded, as it does not present significant differences or challenges relative to traditional industries.

Commission, online platforms lead the list of the most accessed websites in the world, with search engines, social media and e-commerce as the most visited types of platforms.⁴ After defining these markets, a market power assessment in respect of these platforms is presented. It is shown that it is not necessary to rely on structural presumptions to make inferences about market power and establish dominance; rather, market shares can be used as a screening test to dismiss cases in which anticompetitive problems are unlikely. More importantly, the market power analysis departs from the excessive focus on price pointed out by the proponents of the hands-off approach. This analysis takes into consideration the interdependences between the platforms' different sides, and based on the test proposed in Chapter 2 (Conclusions), it assesses the extent to which the collection and processing of data can raise barriers to entry. It will be seen that the dynamics of big data and big analytics, network effects, switching costs and other factors may confer market power and create and/or consolidate dominance, contrary to the Schumpeterians' prediction of fleeting market power in dynamic markets. It will be also seen that, as a result of said market power, some firms have the ability to engage in data-driven abusive conduct and distort competition. If online markets are left unchecked, competition is likely to be impaired.

At the same time, by defining platform markets and assessing market power therein, a natural conclusion emerges: online platforms follow different business models, rely on data to different extents, and derive their market power from different factors. Any 'one-size-fits-all' regulation is bound to be incapable of accounting for these differences and the manner in which they impact competition, for which reason any beneficial effect stemming from such regulation is at best doubtful.

Therefore, vigilant competition authorities conducting case-by-case analyses of market power and of the impact of a given firm's practices on competition remain the most important control mechanism to ensure a system of undistorted competition in online markets.

Section I addresses market definition in online platform markets. It discusses market definition's basic concepts and most significant challenges for its implementation in

⁴ European Commission, 'Commission Staff Working Document - Online Platforms Accompanying the Document Communication on Online Platforms and the Digital Single Market' (2016) 1.

online industries. In particular, it explains the manner in which multisidedness, product differentiation, innovation and the collection and processing of user data complicate market definition, and proposes a ‘best course of action’ to address such complications. It then proceeds to define relevant product markets for search engines, social network and online marketplaces. Section II discusses the assessment of dominance in online platform markets. It argues that when the interdependences between the platform’s different sides cannot be taken into consideration at the market definition stage for some reason, the assessment of dominance is an adequate analytical step to account for them. It also argues that market shares need not have their traditional preponderant role in this assessment; rather, they can be used as a screening mechanism to determine whether further analysis is warranted. It then proceeds to assess a potential dominant position of Google, Facebook and eBay in the markets defined in Section I, focusing on the role of direct and indirect network effects, multihoming possibilities, switching costs, access to data and strength of dynamic competition. Section III explains certain data-driven abuses in which dominant firms may engage. Section IV presents some conclusions.

I. Market Definition

1. General

The definition of the relevant market is a useful first step to frame competition disputes. Within the context of Article 102 TFEU, it is a precondition for the assessment of dominance.⁵ Its main purpose is the identification of the most significant competitive constraints that are exerted upon the firm or firms under scrutiny, and entails an informed yet ultimately subjective judgement as to which is the set of products (or services) that compete with each other (the relevant ‘product market’⁶) in a given geographic location (the relevant ‘geographic market’).⁷

2. Competitive Constraints

The competitive constraints most commonly used to define markets are demand-side and supply-side substitution. Weaker competitive constraints, such as potential competition, are considered at the later stage of the competitive assessment.⁸

Demand-side Substitution: The ability of consumers to switch to other products when confronted by a price increase⁹ (demand-side substitution) constitutes the most direct constraint on undertakings’ behaviours and decisions. A relevant market on the demand side is composed of all those products that are substitutes of the product offered by the undertaking under scrutiny. Two products are substitutes when a price increase in one product causes consumers to switch their demand to the other product. As a general rule,

⁵ Case 6-72, *Europemballage Corporation and Continental Can Company Inc v Commission of the European Communities* [1973] ECR 215 [32]; See also Case T-62/98, *Volkswagen AG v Commission* [2002] ECR II-2707 [231].

⁶ ‘A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use.’ European Commission, Notice on the Definition of the Relevant Market for the Purposes of Community Competition Law [1997] OJ C 372/5, para 7.

⁷ ‘The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.’ *ibid* para 8.

⁸ *ibid* para 24.

⁹ For simplicity, the market definition exercise is conducted as if price were the only relevant parameter of competition. However, price increase can be equated to consumer harm, and consumer harm can be materialised in several dimensions, such as *inter alia* quality reduction, lower service and decreased innovation. Consumers can switch away to other products for any of these reasons.

the presence of more and better substitutes mitigates the ability of an undertaking to increase the price of its product.

The conceptual framework most commonly used by competition authorities¹⁰ to assess demand-side substitution is the hypothetical monopolist test ('HMT' or 'SSNIP' test), whereby it is determined whether consumers would switch to other readily available substitute products in response to a hypothetical small (5-10%) but significant and non-transitory increase in price (hence the 'SSNIP') of the product in question.¹¹ If the application of a SSNIP to the product at stake would result in consumers switching to other alternative products, and the loss of customers would render the price increase unprofitable, it means that the product at hand does not constitute a separate market. In this scenario, additional products are included in the relevant market, and the test is carried out again until the increase in price would be profitable and hence the relevant market would be worth monopolising.¹²

Supply-side Substitution: Supply-side substitution is the second constraint most widely used to define markets. However, in order to be considered, its effects ought to be equivalent to those of demand-side substitution in terms of effectiveness and immediacy, which means that suppliers must be "able to switch production to the relevant products and market them in the short term without incurring significant additional costs or risks in response to small and permanent changes in relative prices."¹³ These strict requirements explain why supply-side substitution rarely affects the outcome of market delineation in the majority of cases.

¹⁰ European Commission (n 6) paras 15–17; FTC and DOJ, 'U.S. 2010 Horizontal Merger Guidelines' s 4.1.1; Competition Commission and Office of Fair Trading, 'Merger Assessment Guidelines' s 5.2; Australian Competition & Consumer Commission, 'Merger Guidelines' s 4.19-4.22.

¹¹ European Commission (n 6) para 17.

¹² *ibid.*

¹³ European Commission (n 6) para 20.

3. Market Definition and Market Power

There is unanimous agreement as to market definition not being an end in itself,¹⁴ but rather a tool to frame competition disputes and identify anticompetitive scenarios. Anticompetitive scenarios occur where there is market power. An undertaking has market power if it only faces weak competitive constraints and is consequently able to raise prices above the competitive level or otherwise adversely affect other parameters of competition, thereby harming consumers. The ultimate goal of market definition is “to help understand these competitive constraints and thus the degree of market power.”¹⁵ In Article 102 TFEU proceedings, the determination of the degree of market power of the firm under investigation is part of the assessment of dominance.¹⁶

4. Problems concerning Market Definition in Online Markets

The traditional analytical steps of competition cases “typically follow a one-way procedure starting from the assumption that the market definition is a given concept that can and must be figured out first, and then forms the background for the rest of the analysis.”¹⁷ In this framework, market definition results in a binary decision on whether certain products, suppliers and locations are ‘in’ or ‘out’ of the market, and the boundaries drawn in this way (i) determine the array of competitive constraints that will be considered in (and excluded from) further competitive analyses, and (ii) serve as a basis for the calculation of the participants’ market shares and market concentration, from which inferences about market power are made. As a result, the broader the market (that is, the more substitute products the relevant market contains), the less likely the finding of dominance or a significant impediment of competition, for which reason market definition “sets up a battle between the ‘we-win because it is a narrow market’ plaintiffs and the ‘you-lose because it is a broad market’ defendants.”¹⁸

¹⁴ Competition Commission and Office of Fair Trading (n 10) para 5.2.2; OECD, ‘Market Definition’ (2012) 13, 405 (BIAC’s submission), 231–232 (France’s submission), 256 (Israel’s submission) and 286 (Poland’s submission).

¹⁵ David S Evans, ‘Lightening Up Market Definition’, in Einer R. Elhauge (ed), *Research Handbook on the Economics of Antitrust* (Edward Elgar Publishing 2012) 58–59.

¹⁶ See below Section II.

¹⁷ European Parliament, ‘Challenges for Competition Policy in the Digitalised Economy, a Study for the ECON Committee’ (2015) 50.

¹⁸ Evans (n 15) 53.

This approach is not problematic in, for example, one-sided markets where undertakings produce homogeneous products and compete on the basis of price. However, it is problematic when applied to online platform markets, which are characterised by multisidedness, product differentiation, innovation, and the collection of data. The above-mentioned mechanistic approach to market definition is incapable of capturing significant competitive constraints that stem from these features.

However, the problems stemming from online platforms' features for the purposes of market definition, as will be seen below, are not insurmountable. The following sections analyse each of these complications, and propose the best course of action to address them.

4.1 Multisidedness

The multisided nature of online platforms¹⁹ pose three main challenges concerning market definition: (i) the existence of two or more potential markets to be defined; (ii) the peculiar interdependencies between the platforms' different sides; and (iii) the absence of nominal prices on at least one side.

4.1.1 The Existence of two or more Potential Markets to be Defined

Problem: The first question that arises when defining multisided markets is whether one should include both sides of the platform in the market definition or just one side.²⁰

To answer this question, van Damme *et al.* proposed a dual distinction of two-sided markets:²¹ on the one hand, there are transaction markets, characterised by the presence and observability of a direct transaction between two groups of users.²² This is the case of payment card systems or online marketplaces. On the other hand, there are non-

¹⁹ See generally Chapter 2 Section I.

²⁰ David S Evans and Michael D Noel, 'The Analysis of Mergers That Involve Multisided Platform Businesses' (2008) 4 *Journal of Competition Law and Economics* 663, 674.

²¹ Eric Van Damme, Lapo Filistrucchi, Damien Geradin, Simon Keunen, Tobias Klein, Thomas Michielsen and John Wileur, 'Mergers in Two-Sided Markets – A Report to the NMa' (2010) <https://www.acm.nl/download/documenten/nma/NMa_Two-Sided_Markets_-_Report_-_16_July_2010.pdf>.

²² Lapo Filistrucchi, Damien Geradin, Eric Van Damme and Pauline Affeldt, 'Market Definition in Two-Sided Markets: Theory and Practice' (2014) 10 *Journal of Competition Law & Economics* 293, 298.

transaction markets, which are characterised by the absence of direct transactions between two different groups of customers, as in the case of advertising-supported media platforms (like Google and Facebook).

According to Filistrucchi et al., whether one should define a single market or two interrelated markets depends on whether we are dealing with a two-sided transaction market or a two-sided non-transaction market: in non-transaction markets multiple relevant markets should be defined for each side of the platform, whereas in transaction markets only one market should be defined.²³

Best course of action: The distinction explained above should be followed, as it is both sound and grounded in economic reality. Indeed, in the case of transaction markets, a platform is “either on both sides of the market or on none”,²⁴ whereas in non-transaction markets a product can be in the relevant market on one side but not on the other. For example, an online marketplace such as eBay must be on both the buyer and seller side or on neither side, since a transaction between a buyer and a seller takes place through eBay (by using both sides) or it does not take place on eBay at all. Conversely, in the case of advertisement-supported platforms, it is highly unlikely that users regard Google and Facebook as substitutes (since broadly speaking users resort to Google to find information on the Internet whilst they use Facebook to interact with their friends and acquaintances), whereas it is at least possible that some advertisers regard search and social network advertising as substitutes.²⁵

4.1.2 The Necessity of Capturing the Specific Interdependencies between the Platform’s Different Sides

Problem: As explained in Chapter 2, platforms are characterised by interdependence and interactions between their multiple sides, since increased participation on one side attracts more participation on the other side(s).²⁶ Capturing “the peculiar relationship between the different sides [...] is a crucial step for product market definition[, since] absent

²³ *ibid* 301–302.

²⁴ *ibid* 301.

²⁵ See below Sections I.5.1.2 and II.5.1.

²⁶ Kevin J Boudreau and Andrei Hagiu, ‘Platform Rules: Multi-Sided Platforms as Regulators’, in Annabelle Gawer (ed), *Platforms, Markets and Innovation* (Edward Elgar Publishing 2011) 164.

recognition of such peculiarity, the risk is that an authority overlooks the important consequences than an apparently innocuous alteration of the market conditions on one side can have on the other.”²⁷ In particular, given that there is a link between the demands of the different sides of the platform, the profit function of a hypothetical monopolist that applies a SSNIP on one side is linked to the profit in the other side, “and the question arises of which feedbacks between the profits on the two sides of the market should be considered.”²⁸

In this regard, there seems to be a consensus as to that all feedbacks between the different sides of the platform should be taken into account.²⁹ Put in other words, it is necessary to consider the extent to which an increase in price (or reduced quality or innovation) on one side causes a shift in demand on the other side, and vice versa. To this effect, the competitive constraints exerted upon the platform on each side must be duly accounted for,³⁰ taking into consideration the fact that the level of competition faced by the platform on one side (for instance, the advertiser side) will depend, *inter alia*, on the number of costumers on the other side (for example, the search user side) relative to other platforms.³¹ For example, if a search engine has a significantly larger user base than its competitors, it is possible to predict that a price increase on the advertiser side is likely to lead to a loss of advertisers smaller than if all of the search engines had a similar user base.

To take these feedbacks into account, economists have endeavoured to adapt the existing quantitative tools for market definition to multisided markets. Noting that “standard tools used for analy[s]ing market definition and unilateral effects for mergers need to be modified when the parties are MSPs”, Evans and Noel proposed an extension of Critical Loss Analysis (a popular method to apply the SSNIP in practice), deriving formulas for its implementation.³² Similarly, acknowledging the unsuitability of the SSNIP test to multisided settings, Filistrucchi develops analytical formulas for the implementation of the

²⁷ Nicolo Zingales, ‘Product Market Definition in Online Search and Advertising’ (2013) 9 The Competition Law Review 29, 33.

²⁸ Lapo Filistrucchi, ‘A SSNIP Test for Two-Sided Markets: The Case of Media’ (2008) NET Institute Working Paper No. 08-34 2–3.

²⁹ *ibid* 12; Evans and Noel (n 20) 666; Filistrucchi *et al.* (n 22) 319.

³⁰ David S Evans and Richard Schmalensee, ‘The Antitrust Analysis of Multi-Sided Platform Businesses’ (2013) National Bureau of Economic Research Working Paper 18783 18 <<http://www.nber.org/papers/w18783>>.

³¹ Filistrucchi *et al.* (n 22) 320.

³² David S Evans and Michael D Noel, ‘Defining Markets That Involve Multi-Sided Platform Businesses: An Empirical Framework with an Application to Google’s Purchase of DoubleClick’ (2007) SSRN paper 5 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1027933>.

test in media markets.³³ Relatedly, Cosnita-Langlais *et al.* discuss how it is necessary to extend Upward Pricing Pressure (UPP) analysis in mergers between platforms by taking into account the changes in externalities as well as changes in prices.³⁴ However, data requirements for the implementation of the SSNIP test and other quantitative tools in multisided markets are higher than for single-sided markets, as it is necessary “to estimate not only the matrixes of the own and cross price elasticities of demand on the two-sides of the market but also the matrixes of the network effects.”

Best course of action: there is no need to be alarmed about the difficulties of applying the SSNIP test or other quantitative market definition methods to multisided markets. It is true that the introduction of the SSNIP test in the 90s represented a more economically rigorous approach to market definition.³⁵ However, the actual implementation of the SSNIP, even for traditional ‘one-sided’ markets, is very difficult in practice.³⁶ The quantitative tests³⁷ designed to implement the SSNIP require good information on consumers’ response to price increases that is normally unavailable, “so the results of the test may depend critically on how poor information is interpreted”.³⁸ Indeed, there are “very few situations where there [is] sufficient quantitative data to perform the [HMT or SSNIP] test explicitly”,³⁹ which explains the findings of a study concluding that the European Commission has used the SSNIP test in 11% of its definitions of relevant product markets.⁴⁰ Not surprisingly, after conducting a comprehensive examination of cases involving multisided markets in the EU and the US, Filistrucchi *et al.* found that “none of the competition authorities appear to have applied a specific two-sided market formula to perform the SSNIP test.”⁴¹ This makes total sense: the SSNIP and other quantitative tests are just one way to define markets,⁴² and if they result impracticable in a given case due to unavailability of sufficient data or other reasons, competition authorities

³³ Filistrucchi (n 28) 14.

³⁴ Andreea Cosnita-Langlais, Bjorn Olav Johansen and Lars Sorgard, ‘Upward Price Pressure in Two-Sided Markets: Incorporating Feedback Effects’ (2016) <<https://economix.fr/docs/713/UPP-TSM-20170327.pdf>>.

³⁵ Alison Jones and Brenda Sufrin, *EU Competition Law* (4th Edition OUP 2011) 66.

³⁶ Howard H Chang, David S Evans and Richard Schmalensee, ‘Market Definition. Assessment of the Relevant Market in Competition Matters - a Report Prepared for the Federal Competition Commission of Mexico’ (2011) 22.

³⁷ See European Commission (n 6) para 39.

³⁸ Chang, Evans and Schmalensee (n 36) 8.

³⁹ Atilano Jorge Padilla, ‘The Role of Supply-Side Substitution in the Definition of the Relevant Market in Merger Control - a Report for DG Enterprise A/4, European Commission’ (2001) 17.

⁴⁰ Copenhagen Economics, ‘The Internal Market and the Relevant Geographic Market’ (2003) 7.

⁴¹ Filistrucchi *et al.* (n 22) 338.

⁴² European Commission (n 6) para 15.

can nevertheless define markets based on all the quantitative and qualitative evidence⁴³ at their disposal. As the Commission explains:

“There is a range of evidence permitting an assessment of the extent to which substitution would take place [...] The Commission follows an open approach to empirical evidence [...] The Commission does not follow a rigid hierarchy of different sources of information or types of evidence.”⁴⁴

Therefore, it is submitted that to define online platform markets taking into account the feedbacks between their different sides, rather than endeavouring to apply complex two-sided formulas that require seldom-available data, the best course of action is to rely on all of the evidence that might be available in the case at hand and use the conceptual side of the SSNIP test,⁴⁵ as even when this test cannot be quantitatively applied “it nevertheless provides a useful way of analysing the evidence and judging the extent of substitution between products or locations.”⁴⁶

Finally, it is argued that market definition and the assessment of market power, especially in dynamic markets, should be not be carried out in a rigid manner (i.e. placing too much relevance on the exact market boundaries), which entails that competitive constraints that are not considered at the market definition stage can be nevertheless duly accounted for at subsequent stages of the competition analysis. In some cases, it may be appropriate or convenient to define separate markets for each side of the platform and consider the impact of interdependencies and network effects as part of the assessment of dominance or the competitive assessment (in mergers). Indeed, this is the approach followed by the Australian Competition and Consumer Commission in media mergers.⁴⁷

⁴³ Such as inter alia functionality of services, technical characteristics, specific features of consumer demand, customer surveys, market studies and evidence of past substitution. *ibid* paras 37–43.

⁴⁴ *ibid* para 25.

⁴⁵ ‘The most important aspect of the SSNIP is its conceptual side, not its quantitative side [...] Even when no detailed data are available, it is useful to think of the market definition question in terms of SSNIP [...]’ See Jonathan Faull and Ali Nikpay, *The EC Law of Competition* (2nd Edition OUP 2007) 1147.

⁴⁶ New Zealand Commerce Commission, ‘Mergers and Acquisitions Guidelines’ (2013) para 3.24.

⁴⁷ Australian Competition & Consumer Commission, ‘Media Mergers’ (2006) para 107 <<https://www.accc.gov.au/system/files/Media%20Mergers%20-%20202011.pdf>>.

4.1.3 The Absence of Nominal Prices on at least one Side

Problem: When a group of customers enjoys a service free of charge, quantitative tools such as the SSNIP test become unfit for purpose, given that such tools have been “designed to examine the reactions of one set of customers, not two, to changes in price”,⁴⁸ and “[t]here is no sound way to analy[s]e a 5 percent increase in a price of zero – 5 percent of zero is still zero.”⁴⁹ Moreover, on the free side of the market, price is clearly not the decisive parameter based on which customers’ consumption decisions are made. Rather, as observed by competition authorities, when a product or service is offered at a zero price, the primary dimension of competition is quality.⁵⁰

Therefore, for industries where competition takes place on the basis of quality attributes, Hartman et al. have proposed replacing the SSNIP test with a different quantitative version of the same that focuses instead on quality changes: the SSNDQ (small but significant and non-transitory decrease in quality) test.⁵¹ Under this test, “the pertinent question to ask is whether a change in the [quality] attributes of one commodity would induce substitution to or from another. If the answer is affirmative, then the differentiated products, even if based on alternative technologies, ought to be included in the relevant product market.”⁵² These authors propose a 25% decrease in any quality attribute, which “implies that if an existing manufacturer lowers the quality of a key [quality] attribute of an existing product up to 25%, *ceteris paribus*, and no substitution to other product occurs, then the original product constitutes a distinct antitrust market.”⁵³

However, quality is a multi-dimensional concept comprising both objective and subjective components: whilst some quality attributes are certain, objective and observable, such as performance, durability or the capacity of a car, others are subjective and dependant on consumers’ perceptions, such as aesthetic appeal or prestige associated with a particular

⁴⁸ Renata B Hesse, ‘Two-Sided Platform Markets and the Application of the Traditional Antitrust Analytical Framework’ (2007) 3(1) Competition Policy International 192.

⁴⁹ David S Evans, ‘Antitrust Economics of Free’ (2011) John M. Olin Program in Law and Economics Working Paper No. 555 2.

⁵⁰ See for example Case COMP/M5257, *Microsoft/Yahoo! Search Business* (2010) [101]; Case COMP/M6281, *Microsoft/Skype* (2011) [81].

⁵¹ Raymond Hartman, David Teece, Will Mitchell and Thomas Jorde, ‘Assessing Market Power in Regimes of Rapid Technological Change’ (1993) 2 Industrial and Corporate Change 317.

⁵² *ibid* 334.

⁵³ *ibid* 339–340.

brand.⁵⁴ Moreover, quality is also relative, since the preferences and desires of one person can be despised or disregarded by another. Hence, the quantitative assessment and measurement of quality attributes can prove extremely complex and cumbersome, since whilst it may be possible to *describe* subjective preference factors based on empirical market research, “it is considerably more difficult to *quantify* and compare levels of product quality.”⁵⁵

As a result, a quantitative SSNDQ test is unworkable for two reasons: firstly, given the lack of a precise measurement of quality, it is extremely challenging to identify anything equivalent to a 5-10% price increase. Secondly, in a hypothetical scenario where this is possible, quantifying the effects of the quality degradation on the revenues of the undertaking subject to scrutiny in order to determine whether the decrease in quality is profitable can prove impossible.⁵⁶

Best course of action: it is submitted that thinking about substitution in terms of SSNDQ on the ‘free’ side of a platform is conceptually appealing,⁵⁷ as it faithfully depicts the basis on which customers of ‘free’ online services may likely decide to switch their demand to other platform (or one-sided) suppliers: for example, if average users were experiencing issues when logging in to Facebook, because the website is crashing due to user overload or other reasons, the pertinent question would be whether users would switch away from Facebook to other social network platforms such as Google+, Tumblr or Twitter.⁵⁸ This

⁵⁴ OECD, ‘The Role and Measurement of Quality in Competition Analysis’ (2013) 6.

⁵⁵ *ibid*; *ibid* 79 (European Commission’s submission).

⁵⁶ ‘Price increases can immediately be translated into the evaluation of profits, while a very complex assessment would be needed for profits derived from quality degradation (such as calculations of cost savings)’. See OECD (n 54) 80 (European Commission’s submission).

⁵⁷ “The notion of substitution must be part of the analysis, even though it does not rely on [the] formalistic method underpinning the SSNIP test.” Florence Thépot, ‘Market Power in Online Search and Social-Networking: A Matter of Two-Sided Markets’ (2012) CLES Working Paper Series 4/2012 19.

⁵⁸ Aleksandra Gebicka and Andreas Heinemann, ‘Social Media & Competition Law’ (2014) 37 World Competition 149, 158.

analysis, however, must (i) rely on qualitative methods⁵⁹ and (ii) take into consideration, when possible, the feedback effects between the free side and the other sides.⁶⁰

4.2 Product Differentiation and Innovation

Problem: Product differentiation and innovation in online markets pose additional complications for market definition. In the face of differentiated products, substitution analysis may lead to arbitrary results. In turn, innovation from potential competitors, a significant competitive constraint, is excluded from the analysis.

Demand-side substitutability is the main competitive constraint taken into consideration to delineate markets. However, product differentiation makes its determination extremely cumbersome.⁶¹ For example, smartphones are differentiated in terms of screen resolution, battery life, operating system, camera resolution, size, weight, memory, microprocessors, and several other attributes, and they have higher or lower prices, depending on the different combinations of the referred attributes. When products are differentiated in this way, over a broad range of features and prices, there are no obvious gaps in the chain of substitution, nor are there any stark distinctions between products. To make things even more complicated, it is not always possible to convert product features in perceived consumer value, since the value of particular product feature “varies widely with the eye of the beholder”.⁶² For some people, a fast microprocessor in a smartphone renders

⁵⁹ [A]t present competition authorities tend to rely upon qualitative methods of assessing product quality where necessary. Such methods can include the use of material obtained through prior or on-going market investigations, from consumer surveys and interviews, as well as an examination of internal documents and business practices of the firm(s) under scrutiny. Market information gathered by such means might then form the basis for revealed preference analysis, or other analytical techniques by which market dynamics can be assessed.’ OECD (n 54) 6; ‘The area of Internet search is one example since competition is based on quality of the product, rather than on its price, and this is by nature hard to measure with quantitative criteria.’ Zingales (n 27) 34.

⁶⁰ For example, Facebook users could be tempted to switch to a different platform when confronted with a decrease in quality; however, the stronger the network effects, the less likely they will switch to other social networks, in spite of the quality degradation.

⁶¹ The analysis of cross-elasticity of demand between two products does not take into consideration the constraining effect of multiple imperfect substitutes. It may be the case that none of the substitutes is particularly close to the product at hand, but their combined effect may be to prevent the firm under scrutiny from exercising market power. Also, cross-elasticity of demand may be useful to determine whether two products are especially close substitutes, but that does not necessarily mean that the absence of cross-elasticity of demand should place differentiated products in separate markets. James A Keyte, ‘Market Definition and Differentiated Products: The Need for a Workable Standard’ (1995) 63 Antitrust Law Journal 697, 702 and 746.

⁶² Thomas B Leary, ‘The Significance of Variety in Antitrust Analysis’ (2001) 68 Antitrust Law Journal 1007, 1012.

significant added value, whereas for others the microprocessors' speed is of no relevance, and therefore it offers no comparative gain. Hence, it is extremely difficult to generalise consumer preferences and include them in the analysis of whether a change in price of iPhones will make people switch to Samsung smartphones. Worse still, when products or services are offered at zero-prices and the main parameters of competition cannot be quantified with precision (as in the case of quality or innovation), drawing precise market boundaries is likely to amount to an arbitrary attempt to separate substitutes that constrain the competitive behaviour of the firm under scrutiny from those that do not.⁶³

Moreover, as explained in Chapter 1, in innovation-intensive industries, incumbents are disciplined by the threat that another undertaking will “come up with a drastic innovation that causes demand for the incumbent's product to vanish.”⁶⁴ As Pleatsikas and Teece contend: “it is not just immediate entry that tempers behaviour in high-technology industries; it is also the threat of the next generation of products and services that is of concern to incumbents”, and this threat “may help to constrain behaviour, as current market leaders can never be sure that a shift will not occur tomorrow.”⁶⁵ Therefore, according to Padilla, to define markets in dynamic industries:

“[t]he relevant experiment should analyse substitution patters between the incumbent's product (which is currently available to consumers) and the hypothetical product offerings of potential entrants. The results of this experiment are necessarily vague and inconclusive, since the price and performance characteristics of the latter set of products are, almost by definition, undefined.”⁶⁶

Best course of action: the difficulties explained above are neither new nor exclusive to online platform markets. In a roundtable on Market Definition held by the OECD in 2012, competition authorities of over 30 countries presented their experiences concerning market definition in markets characterised by product differentiation and innovation.⁶⁷ The great majority of these authorities, including the European Commission, know that there is not much to do in this regard: precise boundaries in markets with differentiated products are almost certain to leave out of the market some substitutes, and predicting

⁶³ Michael L. Katz and Howard A. Shelanski, ‘Mergers and Innovation’ (2007) 74 *Antitrust Law Journal* 1, 33.

⁶⁴ Padilla (n 39) 67.

⁶⁵ Christopher Pleatsikas and David Teece, ‘The Analysis of Market Definition and Market Power in the Context of Rapid Innovation’ (2001) 19 *International Journal of Industrial Organization* 665, 672.

⁶⁶ Padilla (n 39) 70.

⁶⁷ OECD, ‘Market Definition’ (n 14) 197 *et seq.*

future competitive dynamics, the evolution of the markets and potential entry is inherently speculative and uncertain.

As market definition should not be arbitrarily conducted, or determined on the basis of wishful thinking about the evolution of technology or competition, the best course of action is (i) to acknowledge the problems of market definition in the context of product differentiation and innovation, placing less emphasis on the precise definition of the market boundaries,⁶⁸ and (ii) to factor in its methodological difficulties in the analysis of competitive effects. These recommendations stem from experience. For example, the US 2010 Horizontal Merger Guidelines recognised that “[r]elevant markets need not have precise metes and bounds”,⁶⁹ and the OFT has explained that its approach “tends to reduce the importance of market definition and to increase the importance of other substantive analysis”⁷⁰ in platform markets. Similarly, the Autorité de la Concurrence has noted:

[The] imperfections related to market definition in certain contexts (differentiated products/geographic markets, two-sided markets, innovation, etc.) [have] long been recognised and the Autorité takes [them] into account in competition analysis. This second phase of assessment of the effects of the [merger or conduct] makes it possible to factor in the methodological difficulties of market definition.”⁷¹

4.3 Collection and Processing of Consumer Data

Problem: As explained in Chapter 2, data can confer a significant competitive advantage and raise barriers to entry. Efforts to have access to data, or lack of access to data, can effectively pose constraints on the behaviour of online firms, but a traditional market definition analysis is unsuited to capture them.

To capture data-related constraints, Harbour and Koslov advanced the definition of ‘markets for data’, in addition to the markets for the services that are enabled and

⁶⁸ Padilla (n 39) 70, in the context of high-technology markets, proposes ‘to attribute a lesser role to the market definition exercise in the competitive assessment of markets.’

⁶⁹ FTC and DOJ (n 10) s 4.

⁷⁰ OECD, ‘Two-Sided Markets’ (2009) 140 (United Kingdom’s submission).

⁷¹ OECD, ‘Market Definition’ (n 14) 234–235 (France’s submission).

powered by such data.⁷² In particular, they contended that this approach to market definition would reflect the distinction between that collection at one point in time and subsequent expanded data usage, and also would recognise in a proper manner the high significance and value of growing datasets about consumers created from the operation of online services.⁷³ More importantly perhaps, they noted that this approach would be consistent with online platform markets' reality, as

“Internet-based firms often derive great value from user data, far beyond the initial purposes for which the data initially might have been shared or collected, and this value often has important competitive consequences. In contrast, product market definitions based only on a snapshot of current data usage may not accurately capture this aspect of competition, especially in markets that exhibit network effects based on aggregations of data.”⁷⁴

Giving an example of a situation where it would have been useful to define an input market for data itself, these authors referred to the Google/DoubleClick merger, and suggested that even before the merger Google might have held a significant share in a hypothetical market for “data gathered via search”,⁷⁵ and that Google’s acquisition of DoubleClick might have “substantially increased the likelihood that Google would acquire or maintain market power in that market”.⁷⁶

There is a lot to commend in this approach. First and foremost, it captures the competitive dynamics of an industry which a traditional market definition exercise would most likely miss. Traditional market definition can only address and identify competition for the services that are offered to users and advertisers on online platform markets, but it struggles to identify what occurs in the ‘background’: a race to gather as much data as possible to improve the quality and relevance of platform services. Secondly, a putative market for data could allow to appreciate a new dimension of market power (‘data market power’), since an online platform can reinforce its position by playing simultaneously in multiple parallel markets where it can collect additional data and verify, test and process it

⁷² Pamela Jones Harbour and Tara Isa Koslov, ‘Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets’ (2010) 76 *Antitrust Law Journal* 769, 773.

⁷³ *ibid.*

⁷⁴ *ibid.*

⁷⁵ *ibid* 784; These authors also suggested a ‘somewhat broader market’, such as “data used for behavioral advertising”, which would include not only search data, but also data gathered from other sources and applications that offer clues regarding consumer preferences. *ibid* 785.

⁷⁶ *ibid* 784.

to draw further insights,⁷⁷ thereby deriving additional value far beyond the benefits arising from the original data collection.

Best course of action: in spite of its conceptual appeal, the ‘market for data’ argument suffers from a fundamental flaw, which is given by the fact that a ‘market for data’ will be essentially fictional if data are not marketed to customers. As explained in Chapter 2,⁷⁸ the main platform providers do not trade the data they collect; rather, they use it as an input for the provision of their respective services. Therefore, the ‘market for data’ concept fails to meet the most fundamental requirement for a market to exist, which is the presence of actual market transactions between suppliers and customers of a product.⁷⁹ Since it is fictional and based on a theoretical misconception, its implementation may bring about more confusion than clarity.

After all, data is an asset, and should be treated as such, for which reason its implications should be taken into consideration at later stages of the competitive assessment.

4.4 Conclusions on Market Definition in Online Markets

Market definition in online platform markets is admittedly more difficult than in traditional one-sided markets. However, its inherent difficulties are no compelling reason for competition agencies to dispense with a formal market definition stage,⁸⁰ let alone to justify less intervention in online markets.⁸¹ Instead, they warrant a flexible approach that conceives a fluid and integrated analysis of market definition and market power capable of capturing all meaningful competitive constraints exerted on the firm or firms under scrutiny, including those left out of the market boundaries as a result of the unsuitability of the traditional market definition exercise to capture them.

The challenges arising from multisidedness in conjunction with those stemming from product differentiation and innovation justify placing less importance on the precise boundaries of the market, and giving more relevance to substantive assessments of the

⁷⁷ Zingales (n 27) 40.

⁷⁸ See Chapter 2 Section I.3.3.2.

⁷⁹ This criticism is shared by Darren S Tucker and Hill B Wellford, ‘Big Mistakes Regarding Big Data’ (2014) Antitrust Source 4.

⁸⁰ Louis Kaplow, ‘Why (Ever) Define Markets?’ (2010) 124 Harvard Law Review 437.

⁸¹ See Chapter 1 Section III.1.

extent to which the products included in the relevant markets, distant substitutes not included therein but nevertheless important, the feedback effects between the platform's different sides, the threat of disruptive innovation, and access or lack of access to consumer data constrain the behaviour of the undertaking or undertakings under scrutiny. As the UK Competition Authorities contended, "the precise boundaries of the relevant market may not be important, because a competitive effects analysis can take into accounts constraints [that lie] outside the market or market segmentation."

It is submitted that, to avoid false negatives, markets must be drawn as narrowly as possible, "identifying the smallest subset of products for which there is consumer demand."⁸² However, to avoid false positives, the market definition challenges explained above must be duly accounted for in some point of the competitive analysis. In this way, it is acknowledged that a chosen market definition concerning a digital market may be less informative than in other cases, which circumstance is borne in mind at the assessment stage of competition analysis.

5. Product Market Definition in Markets for Search Engines, Social Network and E-commerce Platforms

5.1 Search Engines

The Commission has defined search engines as "a tool designed to search for information on the Internet. It consists of a search box in which queries can be typed. The results of a given query are then usually presented in a ranked list of results."⁸³ As explained in Chapter 2,⁸⁴ there are general or horizontal search engines, such as those operated by Google, Microsoft (Bing) and Yahoo, which are designed to render an exhaustive list of search results on any topic, and vertical search engines, which focus on specific categories of online content such as for instance travel, product, medical and legal, such as Kayak, NexTag, PogoFrog and Lexisnexis.

⁸² Zingales (n 27) 37.

⁸³ *Microsoft/Yahoo! Search Business* (n 50) [30].

⁸⁴ See Chapter 2 Section I.2.

When a user enters a search query in any general search engine, two types of results are rendered: ‘organic search results’ and ‘paid search results’.

‘Organic search results’ are based on an index of the World Wide Web that is kept by relevant search engine, and delivered by algorithms that rank their likely relevance to the queries entered by users. Search engines permanently deploy ‘crawlers’ or ‘spiderbots’ that systematically search the web in order to construct an as comprehensive as possible picture (‘index’) thereof. The more comprehensive the index of a search engine is, the greater its competitive advantage over other search engines will be. Additionally, it must be reminded that search engines’ algorithms improve the more they are used. Therefore, the larger the user base (and the more data) a search engine has, the greater its possibilities to improve will be.

On the other hand, search engines sell ‘paid search results’ or ‘search-based ads’ to advertisers, based on a ‘keyword bidding system’. According to this system, advertisers bid on search query terms referred to as ‘keywords’, such as for example ‘guitars’, ‘electric guitars’, or ‘Ibanez electric guitars’. Bids are placed on second-price auctions with reserve price,⁸⁵ and advertisers are charged only when a user clicks on an ad (that is, they are charged on a ‘cost-per-click- or ‘CPC’ basis). However, the highest bid does not secure the highest slot (the first slot at the top of the search engine results page, or ‘SERP’). Given that search engines charge on a CPC basis, they need to consider the number of clicks an ad is likely to attract in order to maximise revenue. A search engine can earn more revenue if it places ads with lower CPC bids in higher slots insofar as such ads generate more clicks than ads with higher CPC bids. To this effect, search engines estimate the ‘click-through-rate’ (‘CTR’) for an ad as well as its relevance to viewers, which determines the ‘quality score’ for each bid. The ‘keyword bidding system’ in conjunction with the ‘quality score’ algorithm determine the CPC advertisers have to pay and the slots they are awarded. As in the case of search queries, having more advertisers (and consequently the adds they bring with them) increases the overall quality of ads by increasing the number of ‘ad choices’ to deliver.⁸⁶

⁸⁵ For a detailed discussion of these auctions see Benjamin Edelman, Michael Ostrovsky and Michael Schwarz, ‘Internet Advertising and the Generalized Second Price Auction: Selling Billions of Dollars’ Worth of Keywords’ (2005) National Bureau of Economic Research Working Paper 11765
<<http://www.nber.org/papers/w11765>>.

⁸⁶ FTC Staff, ‘FTC Staff Report on Google - File No. 111-0163’ (2012) 122, footnote 66
<<http://graphics.wsj.com/google-ftc-report/>>.

Since search query and search advertising volume is of the essence to the performance of search engines, they compete to enter into search advertising intermediation agreements with website publishers.⁸⁷ Through these agreements, search engines providers install a search box on the publishers' websites, and whenever a user enters a query, in addition to the search results, also search ads are shown. When a user clicks on the search ad, both the search engine and the publisher split revenues.

The main commercial search engines operate, partly, in a non-transaction multisided market. The platform serves Internet users on the one side and advertisers on the other, and no direct interactions between the two sides can be observed.⁸⁸ Therefore, separate markets for the user and advertiser sides ought to be defined. The search platform also serves website publishers by crawling and indexing their websites' content in organic search results; however, no market should be defined for this group of customers, because there is only a subtle interaction between website publishers and search engines⁸⁹ which is insufficient to justify the existence of an actual market.⁹⁰ Instead of defining an artificial market for this group, the significance and comprehensiveness of the search engine's index should be considered at the competitive assessment stage. Finally, some search engines also provide search advertising intermediation services. Since these services have a transactional nature, a single market must be delineated (rather than two separate markets for advertisers and website publishers).

It is submitted that separate markets for online horizontal search, online search advertising and search advertising intermediation should be defined. Given that Google is undisputedly the leading search engine, it will be used as the centre of the analysis.

⁸⁷ Website or content publishers are basically any website having space to sell advertising.

⁸⁸ See above Section I.4.1.1.

⁸⁹ Website publishers use communication standards such as Robot Exclusion Protocols (REP) or XML to communicate to search engines about the content of their websites and the extent to which they want to be indexed and displayed in organic search results.

⁹⁰ Some authors sustain that a market for indexing web content should be defined. See for instance, Thomas Hoppner, 'Defining Markets for Multi-Sided Platforms: The Case of Search Engines' (2015) 38 *World Competition* 349, 365; Martin Herz, 'Google Search and the Law on Dominance in the EU. An Assessment of the Compatibility of Current Methodology with Multi-Sided Platforms in Online Search' (2014) SSRN paper 25–26 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2497932>.

5.1.1 Horizontal Search

Since search engines provide the online search service free of monetary charge, a quantitative SSNIP cannot be applied to determine demand-side substitution. Nevertheless, the conceptual side of the SSNIP test remains useful, and substitution analysis can be thought of in terms of the likely reaction of users to a degradation of the main parameter of competition in this market: quality (i.e. a conceptual SSNDQ). This analysis can be complemented with evidence such as *inter alia* market surveys, functional substitutability and evidence of past substitution.

The question to ask is, accordingly, to which services would Google's users switch in case of a degradation of quality suffered by its search services? Logically, it would be expected that users switch to competing horizontal search engines, but it may be the case that some consumers decide to perform their searches somewhere else.

It has been suggested that some vertical search engines compete fiercely with Google, for which reason they can be deemed viable substitutes and should be included in the same relevant market.⁹¹ It is submitted that this view is incorrect.

Search queries serve different purposes, and can be classified in (i) informational, where the intent is to locate content concerning a particular topic in order to satisfy the need for information of the searcher (for example, "what does EBITDA mean?"); (ii) navigational, where the intent is to locate a specific website or location, whether it exists or not (for example, "where is Birmingham", or "www.bbc.co.uk"); and (iii) transactional, where the intent is to locate a website with the goal of carrying out a transaction (for example, "price of Ibanez Jem guitar").⁹² Whilst certain information of transactional nature such as for example, on products, flights or restaurants, can be found via both horizontal and vertical search engines, the lion's share of search queries can be made on horizontal search engines only.⁹³ As Wagner-von Papp observes, "[w]hile every search done on a vertical

⁹¹ See for example Andrea Renda, 'Searching for Harm or Harming Search? A Look at the European Commission's Antitrust Investigation against Google' (2015) CEPS Special Report No. 118 27–28.

⁹² See Bernard J Jansen, Danielle L Booth and Amanda Spink, 'Determining the Informational, Navigational, and Transactional Intent of Web Queries' (2008) 44 Information Processing & Management 1251, 1256.

⁹³ It has been reported that transactional queries represent about 10% of all search queries. See Giacomo Luchetta, 'Is the Google Platform a Two-Sided Market?' (2014) 10 Journal of Competition Law & Economics 185, 195; Jansen, Booth and Spink (n 92) 1251.

search engine can be done on a general search web engine, it is not possible to do a general search [on] a vertical search application.”⁹⁴ Put in other words, there is only partial ‘one-way’ substitution between horizontal and vertical search, which justifies the delineation of separate markets.⁹⁵

In addition, vertical search engines face great challenges to compete effectively with horizontal search engines, because comprehensive coverage of all topic areas constitutes a fundamental driver of demand. The paramount significance of comprehensive search results has been confirmed by Google’s former CEO Eric Schmidt, who explained to the FTC that the search platform needs to build brand equity with its users by providing consistently relevant results regardless of the search query’s content, and that high quality (relevant) results across-the-board lead to specific queries in commercial search:

“So if you, for example, are an academic researcher and you use Google 30 times for your academics, then perhaps you’ll want to buy a camera... So long as the product is very, very, very, very good, people will keep coming back... The general products then creates the brand, creates demand and so forth. Then occasionally, these ads get clicked on.”⁹⁶

According to FTC staff, “Schmidt’s testimony is corroborated by the representations of several of the vertical search firms, who note that they are dependent on horizontal search providers for significant amounts of their traffic, because even many vertical search users tend to begin their search with a query on Google, Bing or Yahoo!”⁹⁷ Consequently, although vertical search engines exert competitive pressure on horizontal search providers, as they steal away from them mostly transactional search traffic which is the easiest to monetise, it seems that horizontal and vertical search are more complementary services rather than substitutes,⁹⁸ for which reason a separate market for horizontal search should be defined.

⁹⁴ Florian Wagner-von Papp, ‘Should Google’s Secret Sauce Be Organic?’ (2015) 16 Melbourne Journal of International Law 1, 23.

⁹⁵ For example, in *Microsoft (Tying)*, the Commission defined a separate market for streaming media players and media players having less functionalities, since ‘[w]hile a streaming media player is [...] a substitute for media players which deliver less functionality, substitution the other way round is not readily available as less performing media players do not satisfy specific consumer demand, such as demand for streaming or for video playback.’ See Case COMP/C-3/37792, *Microsoft I* (2004) [415]; Similarly, see Case COMP/M2420, *Mitsui/CVRD/Caemi* (2004) [134].

⁹⁶ FTC Staff (n 86) 66.

⁹⁷ *ibid.*

⁹⁸ Hoppner (n 90) 363.

5.1.2 Online Search Advertising

Competition authorities largely agree on the existence of separate markets for both offline and online advertising.⁹⁹ Within the segment of ‘online advertising’, it must be determined whether online search advertising constitutes a separate market from online display (non-search) advertising. Search engines’ advertiser customers are charged a price to place their ads, so a quantitative SSNIP test, modified to account for feedbacks between the two sides, seems in principle attractive to determine substitution. However, there are two major obstacles to the implementation of this test: firstly, as explained above,¹⁰⁰ sufficient and good data to implement this test is very difficult to obtain, to the extent that to date no competition authority has implemented it, and secondly, any chosen benchmark price is likely to be arbitrary, as the ad placement fees charged under the second-price auction system vary from advertiser to advertiser (depending on their bids) and are subject to constant variations. Nevertheless, the conceptual side of the SSNIP can still be used. Accordingly, the relevant question to ask is whether a 5 to 10% increase in the price of search advertising by Google would shift the demand of its advertisers to non-search ads (aside from to competing platforms).

It is unlikely that advertisers regard search and display advertising as substitutes. Their different objectives and targeting capabilities render substitution for one another rather limited. Firstly, search advertising aims to address immediate and real-time requests of users with a transactional content,¹⁰¹ and “is intended to elicit a response from a consumer, such as the purchase of a product or signing up for a service.”¹⁰² It is considered “the most effective marketing ever”,¹⁰³ since it tends to “generate an immediate online buying act.”¹⁰⁴ Conversely, display advertising is geared towards creating demand and building brand awareness.¹⁰⁵ Confirming this lack of substitutability between search and display advertising, in a study on the competitive operation of online

⁹⁹ The European Commission has made this distinction in several cases. See Case IV/JV1, *Telia/Telenor/Schibsted* (1998) [16]; Case COMP/M4731, *Google/DoubleClick* (2008) [56]; *Microsoft/Yahoo! Search Business* (n 50) [61]; Case COMP/M5932, *News Corp/BSkyB* (2010) [262–268]; Case COMP/M7217, *Facebook/WhatsApp* (2014) [75]; Similarly, see Autorité de la Concurrence, ‘Opinion No. 10-A-29 on the Competitive Operation of Online Advertising’ (2010) 24.

¹⁰⁰ See above Section I.4.1.2.

¹⁰¹ *Microsoft/Yahoo! Search Business* (n 50) [66].

¹⁰² FTC Staff (n 86) 10.

¹⁰³ *ibid.*

¹⁰⁴ Autorité de la Concurrence (n 99) 28.

¹⁰⁵ *Microsoft/Yahoo! Search Business* (n 50) [66].

advertising, the Autorite de la Concurrence observed that several advertisers were unanimous in stating that “purchasing [search ads] does little to meet the communication needs of brand renown, because the expressions options are confined to text, [and] it is hard to construct image and renown with searches alone.”¹⁰⁶ The different objectives pursued by both types of advertising has been ratified by Google’s chief economist Hal Varian: “[o]ne way to think about the difference between search and display/brand advertising is to say that ‘search ads help [to] satisfy demand’ while ‘brand advertising helps to create demand’.”¹⁰⁷

In the FTC investigation into Google’s alleged anticompetitive practices, FTC staff found that Google’s internal documents and testimony confirm that there is no viable substitute for search ads.¹⁰⁸ FTC staff observed that “[b]oth AdWords vice-president of product management Nick Fox and chief economist Hal Varian have previously stated that search advertising spend does not come at the expense of other advertising dollars. And former Google CEO Eric Schmidt has twice testified unequivocally [...] that search advertising is ‘the most effective tool for reaching the customers that are actually prepared to buy’, and ‘has the best ROI of any advertising as best we can determine’.”¹⁰⁹ These findings are confirmed by the Autorite de la Concurrence:

“[t]he answers to the Autorite’s questions concerning a rise in the price of the AdWords service bear out the fact that few advertisers would want to reallocate a significant portion of their advertising expenditure on search-based ads were there to be a moderate increase in the price of this type of advertising. It thus confirms the limitations of substitutability between search-based ads and other types of advertising.”¹¹⁰

In *Google/DoubleClick*,¹¹¹ *Microsoft/Yahoo! Search Business*,¹¹² *Comcast/NBC Universal*¹¹³ and *Facebook/WhatsApp*,¹¹⁴ the European Commission assessed whether search and non-search advertising constitute separate markets, but left the precise market definition open. Notably, it observed in *Microsoft/Yahoo! Search Business* that “a significant number of

¹⁰⁶ Autorité de la Concurrence (n 99) 28.

¹⁰⁷ Hal Varian, quoted in FTC Staff (n 86) 70.

¹⁰⁸ *ibid* 72.

¹⁰⁹ *ibid*. See page 146 of this report for numerous statements from Google’s executives and advertisers noting lack of substitution between search and display advertising.

¹¹⁰ Autorité de la Concurrence (n 99) 34.

¹¹¹ *Google/DoubleClick* (n 99) [48 *et seq.*].

¹¹² *Microsoft/Yahoo! Search Business* (n 50) [62 *et seq.*].

¹¹³ Case COMP/M5779, *Comcast/NBC Universal* (2010) [46].

¹¹⁴ *Facebook/WhatsApp* (n 99) [74 *et seq.*].

respondents believe that search advertising is a market in its own right that cannot be grouped together with any other online advertising activity.”¹¹⁵ More recently, the Commission observed:

“The market investigation also supported to a large extent the existence of a further sub-segmentation of the online advertising market between search and non-search advertising. Indeed, the majority of the advertisers who took part in the market investigation considered that search and non-search ads are not substitutable as they serve different purposes (for search ads, mainly generating direct user traffic to the merchant’s website, while, for non-search ads, mainly building brand awareness) and, as a result, most advertisers would not be likely to switch from one type to another in the event of a 5-10% price increase. Similarly, the majority of the competitors who took part in the market investigation submitted that search and non-search ads are not substitutable from an advertiser’s point of view.”¹¹⁶

FTC staff arrived to the same conclusion in its Google investigation,¹¹⁷ as well as other competition authorities around the world.¹¹⁸ Although the definition of separate markets for search and non-search advertising is of course not without detractors,¹¹⁹ the distinction is well grounded in considerations of substitutability, technical differences, and special characteristics of demand, for which reason a separate market for search advertising is justified.

5.1.3 Search Advertising Intermediation (or Syndication)

The consumers in this market are website publishers that want to provide search services and return search advertisements on their websites (‘syndication partners’), and the sellers are horizontal search engines. Through this service, “if a user clicks on an advertisement

¹¹⁵ *Microsoft/Yahoo! Search Business* (2010) (n 50) [71].

¹¹⁶ *Facebook/WhatsApp* (n 99) [76].

¹¹⁷ FTC Staff (n 86) 72.

¹¹⁸ Autorité de la Concurrence (n 99) 30 ‘It follows from all the foregoing that display is not a close substitute for search-based ads and therefore cannot be deemed to be part of the same market.’; Australian Competition & Consumer Commission, ‘Microsoft Corporation and Yahoo! Inc - Proposed Search Engine Agreement’ (2009)

<<http://registers.accc.gov.au/content/index.phtml/itemId/903283/fromItemId/751043>>, noting a separate national market for the supply of ‘online paid search advertising’; Canadian Competition Bureau, ‘Archived — Google Inc. Terminates Advertising Agreement with Yahoo! Inc. in Canada’ (2008) <<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02746.html>>, noting concerns of the proposed deal on Internet search advertising in Canada.

¹¹⁹ See for example James D Ratliff and Daniel L Rubinfeld, ‘Online Advertising: Defining Relevant Markets’ (2010) 6 *Journal of Competition Law and Economics* 653, and Catherine Tucker and Alexander Marthews, ‘Social Networks, Advertising, and Antitrust’ (2011) 19 *Geo. Mason L. Rev.* 1211. It is worth mentioning that these articles received funding from Google.

provided in response to a search on the partner's Web site, the search engine shares the revenues it generates from the click with the syndication partner.”¹²⁰

The obstacles to apply a quantitative two-sided SSNIP to delineate the boundaries of this market are same as those explained in the preceding section. Nevertheless, substitution can be determined based on other available evidence.

In the FTC investigation into Google, FTC staff interviewed several publishers of different sizes, and they provided “very consistent responses on the issue of cross-elasticity of demand.”¹²¹ In particular, the publishers reported that search and search advertising syndication is more effective in monetisation terms than display advertising or any other content they might include on their websites, and that they do not view other types of advertising as viable substitutes for search and search advertising syndication.¹²² More importantly, none of the publishers told the FTC Staff that “a modest (5 to 10 percent increase) in the price for search and search advertising syndication would cause them to shift away from search and search advertising syndication in favour of other forms of advertising or web content.”¹²³ In addition, FTC staff observed that Google had been deploying significant efforts to reduce the amounts of revenue it shares with website publishers from search intermediation services, and that “Google’s successful efforts to systematically reduce revenue share constitutes a natural experiment to determine the likely response to a SSNIP.”¹²⁴ Observing that of the interviewed website publishers none reduced or ceased to use search and search advertising syndication in response to these price increases, FTC staff concluded that “[t]he publishers’ response to Google’s price increases has been universally consistent with the proposition that search and search advertising syndication (search intermediation) is a relevant market”.¹²⁵

The Commission has recently confirmed this separate market. In 2016, the Commission sent to Google a Statement of Objections on restrictions that the company has placed on the ability of certain third party websites to display search advertisements from Google's competitors. According to the Commission, these restrictions have been imposed in the

¹²⁰ DOJ, ‘Yahoo! Inc. and Google Inc. Abandon Their Advertising Agreement’ (2008) <<https://www.justice.gov/archive/opa/pr/2008/November/08-at-981.html>>.

¹²¹ FTC Staff (n 86) 74.

¹²² *ibid.*

¹²³ *ibid.*

¹²⁴ *ibid.*

¹²⁵ *ibid.*

‘market for search advertising intermediation’, where Google operates through its ‘AdSense for Search’ platform.¹²⁶

5.2 Social Networks

Social network platforms have been defined as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.”¹²⁷ Although social network platforms’ functionalities vary significantly and are permanently evolving as a result of constant innovation, their most common and defining feature consists of visible ‘user profiles’ that display a list of ‘friends’ who are also users of the platform.¹²⁸ In addition to the profile and list of friends functionalities, other important features include the exchanging of messages (one-to-one, one-to-group or one-to-many), sharing information (by posting pictures, videos or links), commenting on postings and recommending friends, although a site does not have to include all of these features in order to qualify as a social network.¹²⁹

Social networks are highly differentiated. For example, LinkedIn has an essentially professional orientation, whilst Twitter’s main feature is the sharing of short text messages (‘tweets’) with any user that decides to ‘follow you’. Additionally, there is an even greater number of more specialised social network sites that revolve around age (Kidzworld.com), language or nationality (Orkut, with great presence in Brazil and Estonia), music (Ping.com), news (Reddit.com) or other aspects of identity or affiliation (such as CafeMom.com for mothers or Ravelry.com for people interested in knitting).¹³⁰ Moreover, social network platforms engage in continuous development of new product or service features, a large amount of which is done with the aid of third parties.¹³¹ For

¹²⁶ European Commission, ‘Press Release - Antitrust: Commission Takes Further Steps in Investigations Alleging Google’s Comparison Shopping and Advertising-Related Practices Breach EU Rules’ (2016) <http://europa.eu/rapid/press-release_IP-16-2532_en.htm>.

¹²⁷ M Boyd Danah and Nicole B Ellison, ‘Social Network Sites: Definition, History, and Scholarship’ (2007) 13 *Journal of Computer-Mediated Communication* 210, 211.

¹²⁸ *ibid.*

¹²⁹ *Facebook/WhatsApp* (n 99) [51].

¹³⁰ Spencer Weber Waller, ‘Antitrust and Social Networking’ (2012) 90 *NCL Rev.* 1771, 1777–1778.

¹³¹ Devi R Gnyawali, Weiguo Fan and James Penner, ‘Competitive Actions and Dynamics in the Digital Age: An Empirical Investigation of Social Networking Firms’ (2010) 21 *Information Systems Research* 594, 597.

example, the market leader Facebook had over 9 million integrated third-party apps in 2012.¹³² These applications “are valuable strategic assets for the firm because they help enrich customers’ experiences and retain existing customers.”¹³³

As users pay no fee to use the platform, social networks derive their profits mostly from display advertising. Advertising on social networks takes different forms, and the ad targeting capabilities vary depend on the richness of platform’s user base.¹³⁴

Since the main social networks are essentially advertisement-supported media platforms, they operate in a two-sided non-transactional market, catering users on one side and advertisers on the other. As a result, separate markets must be delineated for each of these groups. In addition, some social networks like Facebook operate as a software platform which developers are able to use to create ‘applications’ that plug seamlessly into the social network’s website, thereby accessing users. Since software platforms have a transactional nature, as there are observable transactions between members of two different groups of customers,¹³⁵ only one market for the software platform should in theory be defined (rather than two markets for users and application developers). However, since the market defined for the user side overlaps with the market for social network software platforms to a great extent (as they refer essentially to the same service and both include the platform’s user base), for ease of analysis, only markets for the user and advertiser side will be defined, while the competitive implications of the third group of customers (application developers) will be taken into consideration at the stage of the competitive assessment.¹³⁶

It is therefore submitted that separate markets for social networking services and display advertising should be distinguished. It must be noted, however, that a precise definition

¹³² Brittany Darwell, ‘Facebook Platform Supports More than 42 Million Pages and 9 Million Apps – Adweek’ (2012) *Adweek* <<http://www.adweek.com/digital/facebook-platform-supports-more-than-42-million-pages-and-9-million-apps/?red=if>>.

¹³³ Gnyawali, Fan and Penner (n 131) 597.

¹³⁴ See below Sections I.5.2.2 and II.5.2.

¹³⁵ Developers make available the applications through Facebook and users download these applications to integrate them in their respective profiles.

¹³⁶ This was the approach followed by the Commission in *Microsoft I*: it defined a single market for Client PC Operating Systems, and considered the competitive implications of app developers in later stages of the competitive analysis, coining the term ‘applications barrier to entry’ to describe the positive feedback loop between the operating system’s both sides. See *Microsoft I* (n 95) [459].

on both sides is likely to be impossible, as there are different degrees of substitution between different kinds of social networks and advertising formats.

5.2.1 Social Networking Services

It must be noted from the outset that social networking services are only available online, and do not have readily identifiable substitutes in brick-and-mortar businesses.¹³⁷

As in the case of the market for horizontal search engines, absence of monetary prices and quality- and innovation-based competition render the implementation of a quantitative test to define markets impracticable. Consequently, substitution must be determined based on other evidence and criteria.

In *LiveUniverse v. Myspace*,¹³⁸ the plaintiff argued that the defendant operated in the market for Internet-based social networking. Myspace attempted to include other types of websites that allow interaction between users in the relevant market, but the California Central District Court disagreed, arguing that:

“Internet connectivity services are not reasonable substitutes, because their primary function is simply to give users the ability to access the Internet. As to online dating sites, although they do have similar “organic, interactive qualities” to social networking websites, their dominant function and purpose is to enable users to meet potential dates. Online dating sites are not reasonable substitutes for social networking websites, because the latter websites have significantly more functions and appeal than do online dating sites. For example, social networking websites are used to get in touch with old friends and to keep current friends informed about what’s new and exciting. Although social networking websites may also be used for dating, **if MySpace suddenly were to shut down, its members would not fill the social void by turning to online dating sites. Instead, they would likely set up profiles on a different social networking website**” (emphasis added).¹³⁹

In *Facebook/WhatsApp*, the Commission observed that there is certain overlap of functionalities between social networking services and consumer communication apps,

¹³⁷ Jared Kagan, ‘Bricks, Mortar, and Google: Defining the Relevant Antitrust Market for Internet-Based Companies’ (2010) 55 NYL Sch. L. Rev. 271, 290.

¹³⁸ *LiveUniverse, Inc v Myspace, Inc*, CV 06-6994 AHM, 2007 WL 6865852 (CD Cal 2007).

¹³⁹ *ibid* 9.

but that nevertheless there are significant differences between them.¹⁴⁰ In particular, social networking services tend to offer a richer social experience than consumer communication apps (such as Skype or WhatsApp), their messages are not expected to be responded to in real time, and they enable communication and information sharing with a wider audience than consumer applications apps.¹⁴¹ Perhaps more importantly, the Commission contended that social networking services can be further segmented based on their intended use. It argued that “[r]espondents to the market investigation generally consider that a distinction could be drawn between social networking services promoting interpersonal contact for private and entertainment purposes (such as Facebook and Google+) and services which are used for professional purposes (such as LinkedIn or Xing).”¹⁴² Regrettably, the Commission left the exact boundaries of the market for social networking services open, as it considered that the merger under investigation would not give rise to serious doubts as to its compatibility with the internal market.¹⁴³

It is submitted that (online) social networking services constitute a separate market¹⁴⁴ which does not include other services such as online dating sites, consumer communication apps or other internet connectivity services. This is because although certain websites like for instance YouTube, Pinterest or eHarmony offer functionalities that are also provided by social networking websites, most notably the possibility of interaction with other users and sharing content, they essentially constitute different products from the users’ point of view, are used in different ways, and furthermore are accessed by users at the same time. As a result, these other sites or services are complements rather than substitutes, for which reason should not be included in the same relevant market.

Moreover, the fact that different sites fall within the definition of ‘social network’ does not necessarily mean that they are competitors in the same relevant market. Social networking sites differ largely in terms of *inter alia* offered functionalities and user interfaces, as a result of which they may be also perceived as different services in the eyes of consumers. For example, Twitter is specialised in the communication of short

¹⁴⁰ *Facebook/WhatsApp* (n 99) [52–53].

¹⁴¹ *ibid* [54–56].

¹⁴² *ibid* [59].

¹⁴³ *ibid* [62].

¹⁴⁴ “There is a strong case to be made that the relevant market is the social networking itself.” Waller (n 130) 1779.

messages, Instagram in the publication of photographs, and Facebook offers more extensive ways to draw users' attention to different contents like *inter alia* postings, messages, photos, videos and 'social ads'. Consequently, "depending on the specific perspective selected, services such as Facebook, Twitter or Instagram cannot be attributed to the same market, or only to a restricted degree."¹⁴⁵ Accordingly, different markets for specialised social networking websites revolving around specific personal interests or user engagement could in theory be defined, depending on the actual degree of demand-side substitutability between different social networks.

It is thus posited that a market for general social networking services (promoting interpersonal contact for private and entertaining purposes¹⁴⁶) is an independent product market. This market includes the platforms that offer the most comprehensive social experience, such as Facebook, Google+ and Myspace. Specialised social networks should be included in separate markets, as they are commonly used in conjunction with (rather than instead of) general social networking platforms;¹⁴⁷ that is to say, they are complement rather than substitute products. At any rate, any competitive pressure exerted by specialised social networks upon general social networks ought to be considered at the stage of the competitive assessment.

5.2.2 Non-search Advertising (Display/Social Ads)

As explained above, there are two main types of online advertising: search-based advertising and display advertising. Display advertising refers to banners and videos that are shown next to content on websites, emails and in-game advertising.¹⁴⁸ As already discussed, search-based advertising is likely to constitute a product market on its own. Similarly, display advertising is likely to be an independent product market as well. In support of this conclusion, the Commission has observed that "when a publisher decides to allocate a given space on a web page to a non-search (e.g. display) ad, this would not be

¹⁴⁵ Monopolkommission, 'Special Report 68: Competition Policy: The Challenge of Digital Markets' (2015) 72 <<http://www.monopolkommission.de/index.php/en/reports/special-reports/284-special-report-68>>.

¹⁴⁶ *Facebook/WhatsApp* (n 99) [59].

¹⁴⁷ [Some social networks] are specialised services which serve a specific market niche by virtue of concentrating on a specific user group such as professionals (LinkedIn and Xing) or stressing a specific functionality such as sharing images (Instagram), and are hence regarded by users more as complementary services. Monopolkommission (n 145) 73.

¹⁴⁸ CMA, 'The Commercial Use of Consumer Data – Report on the CMA's Call for Information' (2015) 53.

substitutable with a “search generated” advertising space”,¹⁴⁹ and that “the majority of advertisers who took part in the [Facebook/WhatsApp] investigation considered that search and [display] ads are not substitutable.”¹⁵⁰

Social ads are commonly considered as part of display advertising.¹⁵¹ However, there is a growing perception amongst advertisers in the sense that social ads are not substitutable with other types of display advertising. In *Facebook/WhatsApp*, the Commission explored the possibility of defining a separate product market for display advertising services on social networking sites, but did not reach a final conclusion. In particular, it noted that a number of respondents considered that other types of display advertising are not as effective as advertising on social networks and notably on Facebook, on account of Facebook’s “large and highly engaged audience and its ad targeting opportunities”, but that other respondents were of the opinion that many other advertising platforms offering display ads are equally effective.¹⁵²

There is a very compelling case to consider social advertising as a separate product market. In this type of advertising on social networks, advertisers have very detailed knowledge about their audience, in the manner of likes, friends, interests, time spent online and location, for which reason targeting capabilities, and therefore ad effectiveness, are enhanced to a significant extent.¹⁵³ In addition, social ads are seen as ‘walled gardens’, with the website publisher (the social network) providing an end-to-end solution comprising the entire necessary infrastructure to buy, insert and analyse campaign performance.¹⁵⁴ The enhanced targeted possibilities and end-to-end solution is likely to yield superior ad click-through-rates¹⁵⁵ and provide a unique customer experience which may prove unsubstitutable from the advertisers’ point of view. Conversely, the ‘general’ display advertising market is highly fragmented, where the entire process from campaign

¹⁴⁹ *Google/DoubleClick* (n 99) [52].

¹⁵⁰ *Facebook/WhatsApp* (n 99) [76].

¹⁵¹ Tucker and Marthews (n 119) 1215.

¹⁵² *Facebook/WhatsApp* (n 99) [77].

¹⁵³ Rolf H Weber, ‘Competition Law Issues in the Online World’ (2013) 20th St. Gallen International Competition Law Forum ICF 12.

¹⁵⁴ Ed Bierdeman and Marshall Senk, ‘Digital Ad Tech: Growth, Disruption and Consolidation’ (2014) Woodside Capital Partners 3 <<http://www.woodsidecap.com/wp-content/uploads/2014/08/WCP-Ad-Tech-Report-20140821.pdf>>.

¹⁵⁵ Some authors have already presented evidence on the greater effectiveness of social ads relative to regular display advertising. See Catherine Tucker, ‘Social Advertising: How Advertising That Explicitly Promotes Social Influence Can Backfire’ (2016) SSRN paper 13 <<https://ssrn.com/abstract=1975897>> ‘[W]e present some simple evidence about whether social advertising is more effective than regular display advertising [...] It is clear that social advertising earned far larger click-through-rates’.

planning to execution and performance tracking require the participation of multiple players. Indeed, display ads are inserted on webpages through a highly complex process of real-time bidding, typically on an ad exchange, that involves the participation of *inter alia* data management platforms (DMP), ad servers, ad networks and supply-side platforms (SSPs), which ultimately entails “an overly complicated mix of vendors, with each delivering part of the solution, often requiring the customer to put the various parts together into an integrated solution.”¹⁵⁶

5.3 Online Marketplaces

Online marketplaces (also known as e-commerce platforms or online trading platforms) are MSPs through which online dealers and consumers are able to interact, thus making it possible to match supply and demand.¹⁵⁷ They are essentially intermediaries that help buyers meet sellers of different kind of products. Just like the platforms analysed in the preceding sections, trading platforms are also significantly differentiated. Some platforms such as eBay or Amazon offer a broad and comprehensive range of products, whilst other platforms specialise in a limited product range, such as Etsy (homemade goods), Newegg (electronic sellers), Alibaba (wholesalers) or Shopify (online stores). Moreover, some platforms serve a third group of customers: advertisers. In addition, trading platforms are also differentiated in terms of website design, payment options and rating systems.¹⁵⁸ Online marketplaces only charge sellers for consummated transactions, although some platforms such as Amazon and Etsy also charge listing fees.¹⁵⁹

Since e-commerce platforms are transactional by definition,¹⁶⁰ one relevant market must be defined, instead of one market for sellers and another for buyers. In addition, some e-commerce platforms serve a third group of customers: advertisers. As seen above, advertising-supported media is a type of non-transactional market, and as such, two different markets for users and advertisers must be defined.

¹⁵⁶ Bierdeman and Senk (n 154) 3.

¹⁵⁷ Monopolkommission (n 145) 81.

¹⁵⁸ *ibid* 88.

¹⁵⁹ European Commission (n 4) 17.

¹⁶⁰ See above Section I.4.1.1.

5.3.1 Online Marketplaces

It is firstly necessary to determine whether online trading (or ‘e-commerce’) is a market in its own right separate from brick-and-mortar retailing, or whether e-commerce is essentially a new channel in competition with traditional retailing. On account of the fact that online shoppers have lower search costs and are able to more easily compare prices and products of different sellers than offline consumers; that consumers are not geographically confined anymore, but rather they can order from any location worldwide; that online retailers are able to maintain lower inventory and save the costs of maintaining a brick and mortar store, which determines a diametrically different cost structure (in terms of variable versus fixed costs and with respect to cost level); and that data mining and big data analytics enable retailers to better price discriminate and to research and monitor the competitors’ pricing,¹⁶¹ it is possible to argue that online trading may be a separate product market from traditional retailing. The question of whether online trading is a complement to or a substitute for traditional trading, however, is not likely to have a general answer, as it depends on national preferences, the product at hand and its characteristics, for which reason no generalisations can be made. Indeed, online retailing varies strongly depending on the product categories at hand. For example, products falling within the “music” and “laptop/tablet” categories have a high percentage of sales online (65% and 36% respectively), whilst those in the “make-up” and “groceries” categories have a low one (19% and 3% respectively).¹⁶² Accordingly, this evaluation must be made on a case-by-case basis.¹⁶³

With regard to online trading platforms, it is of the essence to be clear as to what is the service they offer. Taking the example of eBay, as a transactional platform that caters two groups of customers thereby matching demand and supply, what eBay truly sells is access to a transaction.¹⁶⁴ eBay is not a retailer (it does not sell any products), nor does it provide parcel delivery services.

¹⁶¹ Hans W Friederiszick and Ela Glowicka, ‘Competition Policy in Modern Retail Markets’ (2015) 4 *Journal of Antitrust Enforcement* 42, 43–44.

¹⁶² E-Commerce Europe, ‘European B2C E-Commerce Report 2016’ (2016) 31 <<https://www.ecommerce-europe.eu/app/uploads/2016/07/European-B2C-E-commerce-Report-2016-Light-Version-FINAL.pdf>>.

¹⁶³ Margherita Colangelo and Vincenzo Zeno-Zencovich, ‘Online Platforms, Competition Rules and Consumer Protection in Travel Industry’ (2016) 5 *Journal of European Consumer and Market Law* 75, 77.

¹⁶⁴ Daniel M Tracer, ‘Overcharge but Don’t Overestimate: Calculating Damages for Antitrust Injuries in Two-Sided Markets’ (2011) 33 *Cardozo L. Rev.* 807, 839.

The problem is, however, that from the buyers' point of view, their demand can be for the intermediary service that is provided by the online trading platform, *or* the actual products that are offered on it. In the former case, all platforms and portals offering intermediary services for selling/purchasing products should be in theory included in the relevant market, i.e. other online trading platforms, online shopping malls and price comparison portals.¹⁶⁵ Conversely, where the buyer side demands the actual products (and not the intermediary activity), the aforementioned undertakings compete also with other Internet dealers and retailers, and even brick-and-mortar shops. Similarly, from the sellers' standpoint, they have the option to use the intermediary services provided by an online trading platform or other intermediaries, or alternatively, to trade directly via a proprietary online shop. In the first case, as on the buyer side, the relevant market will comprise online trading platforms, online shopping malls and price comparison sites. On the other hand, where the demanded product is the possibility to deal directly with consumers, the relevant market should in principle include all alternatives to trading via online intermediaries, i.e. online shops.¹⁶⁶

Therefore, the relevant question to ask is whether in a specific case intermediated transactions (transactions consummated through online marketplaces) are constrained by direct transactions (without the intervention of a platform). If the answer is affirmative, candidate substitute products will include other trading platforms that offer the possibility to transact on both sides, and also non-intermediated trading, such as online retail transactions consummated on online shops. As the Monopolkommission observes, an online trading platform "is not a market in its own right since it competes with other trading platforms from both the buyer's as well as the seller's perspective, and under certain circumstances with other providers which enable the sale and purchase of a product that is in demand."¹⁶⁷

To determine whether intermediated transactions have close substitutes, it is advisable to analyse the platform's different sides separately. In the eBay/Gmarket merger case, noting that the proposed transaction would have a different impact upon sellers and buyers, the Korean Federal Trade Commission ('KFTC') analysed substitution possibilities for both sides independently. The KFTC observed that both merging parties operated in the

¹⁶⁵ Monopolkommission (n 145) 87.

¹⁶⁶ *ibid.*

¹⁶⁷ *ibid* 86–87.

'Internet open market', described as an "online market place where anyone can sell or purchase goods through the Internet for a certain amount of sales commission."¹⁶⁸ On the buyer side, the KFTC observed that online shopping malls were close substitutes for Internet open markets, given that consumers do not distinguish open markets from web-based shopping malls when shopping online, and they can easily switch purchase between the two. By contrast, on the seller side, the KFTC reached the conclusion that there were no substitutes for Internet open markets, since when sellers attempt to switch their online sales venue from an open market to an online shopping mall, they must undergo a very strict review process, in addition to the fact that both types of marketplaces apply different fees and conceive different payment procedures, thus indicating weak substitutability.¹⁶⁹

Notably, the KFTC did not consider proprietary online stores and shops as close substitutes for online trading platforms and online shopping malls, because the consumer experience is significantly different, and substitution is likely to be 'one-way'. E-marketplaces like eBay (essentially a matchmaker) and Amazon (a matchmaker and retailer) are characterised by having remarkably comprehensive catalogues, communication channels with different vendors, buyer and seller protection programmes, reviews and rating systems, and other ancillary services, as opposed to online dealers which by definition are specialised in narrow product categories and do not provide the consumer experience online marketplaces do. For the same reason, there is just limited substitution between an online trading platform and a specialised online dealer, since whilst a whole universe of purchasing possibilities are given by the former, only few purchases can be made on the latter. As Phillips *et al.* observe, "there might be some other specialized auction niches available, but eBay offers nearly any product available."¹⁷⁰ In addition, small retailers cannot afford wide-reaching advertising campaigns and may find it expensive to buy search ads in order to be featured in the sponsored section of search engines' results, for which reason their online shops will lack the necessary traffic to be viable.¹⁷¹ This lack of traffic further limits substitutability between retailers' proprietary online shops and online marketplaces and shopping malls.

¹⁶⁸ OECD (n 70) 110 (Korea's submission).

¹⁶⁹ OECD (n 14) 268 (Korea's submission).

¹⁷⁰ Jeffrey Phillips, Brian Somok and Xiaoke Zheng, 'How to Dominate the Online Auction Market' (2005) <<http://mc4f.com/Courses/BEM106/Papers/2005/eBay.pdf>>.

¹⁷¹ Copenhagen Economics, 'Economic Effects of Online Marketplace Bans' (2016) 20.

Therefore, a broad market for online marketplaces (which includes online trading platforms, online shopping malls and price comparison portals) can be firstly distinguished. It does not follow, however, that undertakings active in that market do not feel competitive pressure from specialised online dealers and even brick-and-mortar shops; rather, substitution from the point of view of consumers, especially sellers, is limited, and for which reason the competitive constraints exerted by these players ought to be considered at the stage of the competitive assessment.

Finally, it must be noted that substitution possibilities are also dependent on the specific goods being traded (for example new vs. second-hand products) and the respective sale format (for instance fixed price/ auction). For example, second-hand products are sold almost exclusively on online trading platforms. This circumstance limits sellers' substitution possibilities for selling this kind of goods. Indeed, "[m]ost goods traded on eBay are second-hand."¹⁷² In addition, whether a product is sold on an auction or at a fixed price also affects substitution possibilities. Auction format listings, one of eBay's most significant innovations, in which a seller selects a minimum price for opening bids with the option to set a reserve price for the item (which is the minimum price at which the seller is willing to sell the item) has been described by eBay as a "distinctive forum with an auction format [that] creates a sense of urgency among buyers to bid for goods and creates an entertaining and compelling trading environment".¹⁷³ This specialised method of selling gives rise to a near perfect marketplace for which there are no close substitutes.¹⁷⁴ Indeed, in *In Re eBay Seller Antitrust Litigation*¹⁷⁵ the record demonstrated that "eBay employees, industry analysts, potential competitors such as Yahoo!, and Internet bloggers all recognize the online auction market as a separate economic entity distinct from the fixed-price format."¹⁷⁶ Accordingly, narrow markets can be distinguished on this basis. As the Monopolkommission observes:

"there are indications that it is possible to define a separate market for online auctions of used products, differentiated according to groups of goods. This emerges from the fact that, first, there are no adequate substitutes outside

¹⁷² Phillips, Somok and Zheng (n 170).

¹⁷³ Form 10-K filed with the Securities and Exchange Commission on 28 February 2007, quoted in David S Shevitz, 'Does Current Antitrust Regulation Provide Free Parking for eBay and Paypal in the Monopoly Game of Online Auction Sites and Person-to-Person Online Payment Systems' (2009) 30 Loy. LA Ent. L. Rev. 175, 186.

¹⁷⁴ *ibid* 186–187.

¹⁷⁵ *In Re Ebay Seller Antitrust Litigation*, C 07-01882 JF (RS) (ND Cal 2010).

¹⁷⁶ *ibid* 11.

the internet, and that, second, the auction format may be more attractive for the sale of used goods than fixed prices, in particular for private individuals, because there frequently are no market prices.”¹⁷⁷

5.3.2 Display Advertising

Some online trading platforms are also active in the display advertising market.¹⁷⁸ For example, according to eBay, its first-party data produces a deep understanding on users’ shopping intent, which allows the platform to deliver personalised ads to ‘the right audience at the right time.’¹⁷⁹

II. Dominance

1. General

As explained above, market definition is not an end in itself, but an important tool to carry out a detailed competitive assessment in light of the specific circumstances of each case. In Article 102 TFEU proceedings, such assessment begins with the assessment of dominance.

In EU Competition Law, dominance is “a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave, to an appreciable extent, independently of its competitors, its customers, and ultimately of the consumers.”¹⁸⁰ The Commission has clarified that the notion of independence is related to the degree of competitive constraints exerted on the firm under scrutiny; dominance entails that said

¹⁷⁷ Monopolkommission (n 145) 87.

¹⁷⁸ This market was analysed above in Section I.5.2.2.

¹⁷⁹ ‘eBay Product Ads – Advertise Your Products to eBay Shoppers - Home’ <<http://www.ebaycommercenetwork.com/>>.

¹⁸⁰ Case 27/76, *United Brands v Commission* [1978] ECR 207 [65]; Case 85/76, *Hoffmann-La Roche & Co v Commission* [1979] ECR 461 [38].

firm is not constrained or is barely constrained by competitive pressure, and hence that it enjoys substantial market power over a period of time.¹⁸¹

2. Dominance and Multisided Platforms

The need to take into account the interactions between the different sides of a multisided platform in the competitive analysis under Article 101 TFEU was recently endorsed by the CJEU in *Cartes Bancaires*.¹⁸² The CJEU held that, to assess whether coordination between undertakings is by nature harmful to the proper functioning of normal competition, it is necessary to take into consideration

“all relevant aspects – having regard, in particular, to the nature of the services at issue, as well as the real conditions of the functioning and structure of the markets – of the economic or legal context in which that coordination takes place, it being immaterial whether or not such an aspect relates to the relevant market.

That must be the case, in particular, when that aspect is the taking into account of interactions between the relevant market and a different related market [...] and, all the more so, when, as in the present case, **there are interactions between the two facets of a two-sided system.**” (emphasis added).¹⁸³

Even though this case did not include any assessment of dominance, the spirit of the CJEU’s statements quoted above can be readily transposed to assessments under Article 102 TFEU and be interpreted as mandating that the link and interdependences between the sides of the multisided platform under investigation be considered in the assessment of whether such platform holds a dominant position in any of the relevant markets already defined. This is the approach that will be followed below.¹⁸⁴

Moving on to the assessment of dominance itself, the Commission explains that such assessment takes into account the competitive structure of the market, and especially (i) the market position of the dominant undertaking and its competitors; (ii) constraints imposed by the credible threat of future expansion by actual competitors or entry by

¹⁸¹ European Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings [2009] OJ C 45/7, para 10.

¹⁸² Case C-67/13 P, *Groupement des Cartes Bancaires v Commission* [2014] ECLI:EU:C:2014:2204.

¹⁸³ *ibid* [78–79].

¹⁸⁴ See below Section II.5.

potential competitors; and (iii) countervailing buyer power.¹⁸⁵ The first step presupposes the definition of the relevant market and the calculation of market shares. The following steps entail an analysis of the barriers to entry and expansion and other factors that may constrain the behaviour of the dominant firm.

3. Market Shares

The size of an undertaking's market share in absolute terms and relative to those of its competitors is commonly the starting point in the assessment of market power.¹⁸⁶ Market shares have been traditionally used as a proxy of market power. The CJEU has held that “very large shares [above 50 per cent] are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position”,¹⁸⁷ and the Commission has noted that dominance is not likely if an undertaking's market share is below 40% in the relevant market, although market power may still be found with shares under that threshold.¹⁸⁸

Market definition and market share analysis provide very useful information on the competitive constraints an undertaking faces, as well as on the competitive landscape where it operates. However, under no circumstance should this analysis be considered as a proxy for a proper competitive assessment. As explained above,¹⁸⁹ in industries characterised by dynamic competition, product differentiation and multisided markets, delineating a clear boundary to distinguish products that are ‘in’ and ‘out’ of the markets is a utopian effort, and since market shares depend on the choice of where that boundary is precisely located, relying on market shares without considering other evidence in such markets is likely to lead to arbitrary results. Moreover, in markets where barriers to entry are low, undertakings with larger market shares may not have any significant market power.

¹⁸⁵ European Commission (n 181) para 12.

¹⁸⁶ Jones and Sufrin (n 35) 62.

¹⁸⁷ Case C-62/86, *AKZO Chemie BV v Commission* [1991] ECR I-3359 [60].

¹⁸⁸ European Commission (n 181) para 14; The European Commission has challenged mergers where the market share of the combined undertaking was below 40%. See Case COMP/M2337, *Nestlé/Ralston Purina* (2001) [45–47].

¹⁸⁹ See above Section I.4.

Furthermore, dynamic industries where firms compete for the market rather than in the markets are by definition characterised by an incumbent with a large market share. However, such high market share is not necessarily a reflection of market power, as incumbents need to innovate constantly so as not to be leapfrogged by innovative newcomers.¹⁹⁰ The General Court confirmed this view in *Cisco*, where it held that the consumer communications sector

“is a recent and fast-growing sector which is characterised by short innovation cycles in which large market shares may turn out to be ephemeral. In such a dynamic context, high market shares are not necessarily indicative of market power and, therefore, of lasting damage to competition.”¹⁹¹

In view of the above, market share analysis can be used as a preliminary screening mechanism to rule out cases in which the presence of market power seems unlikely.¹⁹² By contrast, if market definition is problematic (as is likely to be the case in online platform markets) and one or more candidate markets yield large market shares that have remained stable or increased over a considerable period of time, then such market shares can be deemed a preliminary sign of market power that warrants further analysis.

4. Barriers to Entry and Expansion

When entry or expansion is easy, market power is unlikely to be durable. Determining the likelihood of entry and expansion, accordingly, plays a fundamental role in the assessment of dominance (and market power in general).

The Commission explains that an undertaking can be deterred from exercising market power if expansion or entry is likely, timely and sufficient. Expansion or entry will be likely if it is sufficiently profitable for the competitor or entrant; for it to be timely, it must be sufficiently swift to deter or defeat the exercise of substantial market power; and for it

¹⁹⁰ David S Evans and Richard Schmalensee, ‘Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries’, in Adam B. Jaffe, Josh Lerner and Scott Stern (eds), *Innovation Policy and the Economy Volume 2* (MIT Press 2001) 23–24.

¹⁹¹ Case T-79/12, *Cisco Systems Inc and Messagenet SpA v Commission* [2013] ECLI:EU:T:2013:635 [69].

¹⁹² OECD (n 14) 242 (France’s submission).

to be sufficient, it must be of a magnitude enough as to be able to deter any attempt to exercise market power by the firm under analysis.¹⁹³

In the end, the relevant question is whether entry or expansion poses a credible competitive constraint on the incumbent.¹⁹⁴ In online markets, the extent to which such a competitive constraint is credible depends largely, but not exclusively, on the following factors:

- Direct and indirect network effects
- Parallel use of multiple services
- Switching costs
- Access to data – data-driven economies of scale, scope and speed, trial-and-error effects and spillovers
- Strength of dynamic competition

Focusing on these factors and taking into consideration meaningful competitive constraints that lie outside the relevant markets defined above,¹⁹⁵ the next section analyses whether Google, Facebook and eBay hold a dominant position therein.

5. Assessment of Dominance of Google, Facebook and eBay

5.1 Google

The Commission has observed that in the horizontal search market “Google has a market share of over 90% in the European Economic Area (EEA).”¹⁹⁶ Similarly, it has been reported that Google’s share of paid search in the EU was 82% in 2015.¹⁹⁷ Finally, the

¹⁹³ European Commission (n 181) para 16.

¹⁹⁴ The Unilateral Conduct Working Group, ‘Unilateral Conduct Workbook Chapter 3: Assessment of Dominance’ (2011) Report Presented at the 10th Annual ICN Conference The Hague, Netherlands 24 <<http://www.internationalcompetitionnetwork.org/uploads/library/doc752.pdf>>.

¹⁹⁵ See above Section I.5.

¹⁹⁶ European Commission, ‘Press Release - Antitrust: Commission Seeks Feedback on Commitments Offered by Google to Address Competition Concerns’ (2013) <http://europa.eu/rapid/press-release_IP-13-371_en.htm>.

¹⁹⁷ ‘Google Dominates Paid Search in Europe’ (2016) *eMarketer* <<https://www.emarketer.com/Article/Google-Dominates-Paid-Search-Europe/1013586>>.

Commission recently observed that Google has had a market share around 80% in the last ten years in the market for search advertising intermediation.¹⁹⁸

A group of commentators calls into question the informative value of the abovementioned market shares¹⁹⁹ on account of the difficulties affecting market definition in online platform industries.²⁰⁰ However, it would be only possible to entirely dismiss the informative value of market shares in these markets if such market shares had noticeably shifted over time, or in the words of the General Court in *Cisco*, if said market shares were ‘ephemeral’.²⁰¹ Yet, this is not the case of Google: since 2002 its market shares in the aforementioned markets have been consistently on the rise, and as the Commission has observed, the longer the period of time a high market share is held, “the more likely it is that it constitutes an important preliminary indication of the existence of a dominant position.”²⁰² It must be emphasised that Google’s dominant position cannot be inferred from the referred market shares; rather, these large shares serve as a preliminary check of market power.

As explained in Chapter 2, on the user side, search engines compete primarily on the basis of quality, that is, the capacity to deliver the most relevant results in response to search queries. Relevance is dependent to a significant extent upon scale and learning-by-doing. More queries allow the search engine to engage in experimentation aimed at improving the relevance of its results. Search engines have the ability to observe what are the links that are more frequently clicked on by users after entering a specific search query, and if many users click on a link that was originally ranked at the end of the search results, the algorithms will take on board this information and place that link at the top, demoting at the same time the links that are less frequently or rarely clicked on. More consumers using a search engine with greater frequency enable the search engine to run more experiments to predict consumer preferences, and the more trials are conducted to this effect, the better the search engine will get at improving the relevancy of results.

¹⁹⁸ European Commission (n 126).

¹⁹⁹ See for example Geoffrey A Manne and Joshua D Wright, ‘Innovation and the Limits of Antitrust’ (2010) 6 Journal of Competition Law and Economics 153; Christian Kersting and Sebastian Dworschak, ‘Does Google Hold a Dominant Market Position?—Addressing the (Minor) Significance of High Online User Shares’ (2014) SSRN paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2495300>.

²⁰⁰ See above Section I.4.

²⁰¹ See above text accompanying footnote 191.

²⁰² European Commission (n 181) para 15.

Google and its supporters argue that the significance of scale and data has been largely overstated,²⁰³ and that in fact data is subject to diminishing returns to scale. Indeed, in *Microsoft/Yahoo!* both Microsoft and Google recognised that “the value of incremental data decreases as the amount of data increases.”²⁰⁴ However, neither Google nor Microsoft has been able to “identify a fixed number of queries or ads that constitutes the ‘minimum efficient’ point of operation,”²⁰⁵ and no competition agency thus far has been able to determine at which point the value of incremental data decreases. Ultimately, the answer to this question will vary depending on the type of query at hand. Chapter 2 demonstrated that whilst the diminishing returns to scale argument may hold for popular searches, it does not hold for less frequent (‘tail’) queries. Accordingly, large search engines do have an advantage relative to small-sized search engines with respect to these queries, and since relevance of results ‘across the board’ enhances the attractiveness of a search engine,²⁰⁶ a dominant search engine with a large user base, and therefore access to more data, is likely to be insulated from competitive pressure regarding quality of search results.

The abovementioned economies of scale and learning-by-doing are combined with economies of scope of user data. Every search query reveals a preference of a specific user, which allows the search engine to provide relevant search results; however, if consumers use not only Google’s search engine but also other services provided by said firm such as Google Maps, Chrome, Android, Gmail and the like, the variety of data stemming from different sources allows the platform to develop rich user profiles, to get better at predicting users’ preferences and tastes, and to offer personalised search results.

Economies of speed also come into play. Chapter 2 explained that when users’ interests change as a result of a specific phenomenon (such as the death of celebrity), platforms must swiftly adapt their algorithms accordingly. A search engine with larger user base, and therefore more data, will be able to adapt more quickly to such change in users’ interests, whilst the remaining search engines will lag behind. The capacity to adapt quickly to such changes increases the attractiveness of the large search engine relative to its competitors.

²⁰³ *Microsoft/Yahoo! Search Business* (n 50) [174].

²⁰⁴ *ibid.*

²⁰⁵ FTC Staff (n 86) 16.

²⁰⁶ See above statement of Eric Schmidt, text accompanying footnote 96.

In view of the economies of scale, scope and speed explained above, rivals search engines face an extremely tough challenge in improving search quality and convincing consumers to switch to their respective search engines. Indeed, it has been reported that in 2010 Microsoft invested “more than \$4.5 billion into developing its algorithms and building the physical capacity necessary to operate Bing”;²⁰⁷ however, although it has gained market share, especially in the US, it still lags behind. In addition, the size of a search engine’s web index is also significant for the efficient performance of a search engine, and the larger the web index, the more information the search engine will have to match a specific query with relevant results. According to Google, its web index “is similar to a map made up of one trillion intersections. So multiple times every day, we do the computational equivalent of fully exploring every intersection of every road in the United States. Except it’d be a map about 50,000 times as big as the U.S., with 50,000 times as many roads and intersections.”²⁰⁸ As of 2015, Google had indexed over 40 billion websites, followed by Bing with only 14 billion.²⁰⁹

The application of the test proposed in Chapter 2 to determine whether an undertaking enjoys a data advantage²¹⁰ leads to the conclusion that Google’s data advantage raises barriers to entry that are difficult to overcome. As seen above, no other search engine has ever been close to match Google’s scale of search data, and its web index is significantly more comprehensive than that of its closest competitor. In addition, no other company in the world has a similar assortment of products offered for free in exchange of personal data,²¹¹ for which reason Google’s economies of scope in data are also extremely difficult to match. Economies of scale and scope of data improve the quality of Google’s algorithms as a result of learning-by-doing, thereby enabling Google to adapt more quickly to changes in consumers’ preferences and interests in real-time (i.e. economies of speed).

But even if rival search engines were able to overcome Google’s big data advantages and larger web index, and find a way to provide results of higher quality (more relevant) than

²⁰⁷ FTC Staff (n 86) 76.

²⁰⁸ ‘We Knew the Web Was Big...’ (2008) *Official Google Blog*
<<https://googleblog.blogspot.com/2008/07/we-knew-web-was-big.html>>.

²⁰⁹ Carolina Di Pietro, ‘How Google Crawls and Indexes the Web’ (2015) *Lander Blog*
<<https://landerapp.com/blog/google-crawls-indexes-web/>>.

²¹⁰ “Whether accessing the data on the scale and scope, and with the velocity available to the incumbent, is costly, resource-intensive and time-consuming for entrants and competitors to replicate.” See Chapter 2, Conclusions.

²¹¹ Google, ‘Our Products’ <www.google.com/about/products/>.

those of Google, it is doubtful that users would actually switch to Google's competitors. This is because multihoming is a rather strange phenomenon in horizontal search. In *Microsoft/Yahoo! Search Business*, the Commission observed "that users tend to 'single-home', meaning that they perform over 90% of their search queries within a month on one single search engine",²¹² and noted that "[t]he very limited share of user multi-homing between Microsoft and Yahoo [then second largest search engine] shows that users rarely run checks between these two platforms."²¹³ Single-homing in horizontal search may be the consequence of entrenched surfing habits and search personalisation, in such a way that if users are accustomed to a search engine, they may not try other search engines even if they perceive lower quality results.²¹⁴ Moreover, perceptions about search results' quality are likely to be influenced by brand. Indeed, in a 2013 study conducted by SurveyMonkey and reported in Search Engine Land:

"[u]sing the same search term, respondents had to choose between a Google search results page and a Bing search result page. In this survey the SERP headers were swapped with Google results listed as Bing results and Bing results listed as Google results. Of the respondents who received the swapped search result pages, a larger percentage of respondents still chose Google results, even though they were actually Bing search results."²¹⁵

The study concludes that not only are users "biased toward Google, but they are influenced by a site's brand as well."²¹⁶

Single-homing habits are reinforced by economies of scope in data and personalised search. The more a given customer uses Google's search engine and its plethora of free services (browser, maps, mobile OS, etcetera), the more Google can collect and process personal data to render personalised search results (and targeted advertising). Personalisation of search results and platform services, accordingly, creates switching costs for users. As Herz observes, "[a]s the formulated algorithms enable a constantly evolving (and potentially self-improving) searching experience, consumers will keep

²¹² Teresa Vecchi, Jerome Vidal and Viveca Fallenius, 'The Microsoft/Yahoo! Search Business Case' (2010) 2 Competition Policy Newsletter 44.

²¹³ *Microsoft/Yahoo! Search Business* (n 50) [221].

²¹⁴ Zingales (n 27) 44.

²¹⁵ Amy Gasenhues, 'Study: Many Searchers Choose Google Over Bing Even When Google's Name Is On Bing's Results' (2013) *Search Engine Land* <<http://searchengineland.com/users-prefer-google-even-when-155682>>.

²¹⁶ *ibid.*

benefiting directly from using one engine only. The likeliness of finding the correct result is decreased whenever customers switch.”²¹⁷

If Google’s competitors face an almost insurmountable challenge in catching up with Google, the picture looks even grimmer for newcomers. There are significant fixed costs related to R&D and the development and maintenance of service infrastructure.²¹⁸ It has been estimated that the core code for a search engine is around 3 million lines and takes up to USD 100 million to develop, which excludes the costs of running the service.²¹⁹ Since Google became the market leader in 2002, only Microsoft with its deep pockets and after having entered into a partnership with Yahoo! has been able to make a rather minor dent on Google’s market share. Another entrant, DuckDuckGo, has also been able to remain in the market, but only because it has managed to attract privacy-sensitive users in the promise that it collects no personal data. However, to date, DuckDuckGo remains a fringe competitor, and in no case can it be considered a serious challenger of Google.²²⁰

It could be argued that Google nevertheless feels the threat of an entrant introducing a new ‘killer’ product that would render Google’s search engine and related products obsolete. However, the mere theoretical possibility of entry is not a sufficiently credible constraint if not based on realistic grounds.²²¹ In light of the record of entry into the search engine-related markets, the Schumpeterian threat does not seem to be a convincing constraint.

The fact that neither actual nor potential competitors in horizontal search are a serious threat to Google does not entail that no competitive pressure is exerted upon the leading search engine. Indeed, horizontal search traffic can be diverted towards vertical search engines in all directions: queries for product purchases can be made on Amazon, eBay or

²¹⁷ Herz (n 90) 30.

²¹⁸ Ioannis Lianos and Evgenia Motchenkova, ‘Market Dominance and Quality of Search Results in the Search Engine Market: Analysis of Exploitative and Exclusionary Abuses’ [2012] CLES Working Paper series 2/2012 4.

²¹⁹ Rufus Pollock, ‘Is Google the next Microsoft: Competition, Welfare and Regulation in Online Search’ (2010) 9 *Review of Network Economics* 1, 26.

²²⁰ Analysing DuckDuckGo’s growth, Danny Sullivan from Search Engine Land wrote: ‘In comparison to Google, Duck Duck Go’s growth might as well not even count. It’s nowhere near close. It’s not close to Bing or Yahoo, either. At 90 million searches per month, Duck Duck Go still needs to triple that figure to reach the search traffic of AOL, 266 million per month, according to comScore.’ See Danny Sullivan, ‘Duck Duck Go’s Post-PRISM Growth Actually Proves No One Cares About “Private” Search’ (2013) *Search Engine Land* <<http://searchengineland.com/duck-duck-go-prism-private-search-164333>>.

²²¹ European Commission, Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-Operation Agreements [2011] OJ C 11/1, para 10.

any price comparison site; queries for travel can be made on Expedia, TripAdvisor, Booking.com, Kayak.com and the like; informational queries can be made on Wikipedia or Quora, and local queries can be made on Yelp. As Wagner-von Papp observes, “[t]he competitive pressure on any one general web search services does not exclusively come from the other general web search services, but also in the form of vertical search services from all different directions depending on the nature of the search.”²²² Moreover, with the increasing use of mobile devices, search queries are increasingly made on vertical search engines’ apps.

It is impossible to accurately determine the extent to which search queries made on vertical search engines and apps constrain Google’s behaviour without empirical data on the actual number of searches made on such search engines and their apps and their evolution over time; however, there is certain information from which a preliminary conclusion can be derived. Notably, vertical search engines serve queries of transactional nature (users are looking to book flights, hotels or buy products), which are those easier to monetise.²²³ If vertical search engines and apps were indeed exerting significant pressure upon Google, a large portion of transactional search traffic would be directly served by vertical search engines and apps, as a result of which Google’s profitability in paid search would be adversely affected. However, Google’s global search ad revenues rising from USD 32.63 billion in 2013 to USD 44.46 billion in 2015 indicate otherwise.²²⁴ Not only that, Amazon, which has been dubbed by Google as its “biggest search competitor”²²⁵ spent USD 158 million on Google search ads in 2013, more than any other firm,²²⁶ which confirms the statements of several vertical search engines in the sense that they depend on horizontal search engines for significant amounts of their traffic, and that many vertical search users begin their search with a query on an horizontal search engine, mostly Google.²²⁷ The fact that a giant vertical search provider like Amazon is highly

²²² Wagner-von Papp (n 94) 24.

²²³ See Hal Singer, ‘Who Competes With Google Search? Just Amazon, Apple And Facebook’ (2012) *Forbes* <<https://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/#22ca1f661703>>.

²²⁴ Jerin Mathew, ‘Google to Dominate Search Ad Market in 2015 with 55% Global Revenue Share’ (2015) *International Business Times* <<http://www.ibtimes.co.uk/google-dominate-search-ad-market-2015-55-global-revenue-share-1494480>>.

²²⁵ Eric Schmidt, ‘The New Gründergeist’ (2014) *Google Europe Blog* <<https://europe.googleblog.com/2014/10/the-new-gründergeist.html>>.

²²⁶ John Cook, ‘Amazon Spent \$158 Million on Google Search Ads in 2013, More than Anyone’ (2014) *Geek Wire* <<https://www.geekwire.com/2014/amazon-spent-158-million-google-search-ads-2013-anyone-else/>>.

²²⁷ See above text accompanying footnote 97.

dependant on Google's search ads, in conjunction with Google's growing revenues in this type of online advertising, suggests that the competitive pressure stemming from vertical search engines is rather limited.

Insofar as Google serves the overwhelming majority of search queries, advertisers will feel compelled to advertise on its search engine. This is all the more true for small-sized advertisers, as the cost of optimising a campaign on Bing or Yahoo! may be disproportionate, having regard to the expected CTC.²²⁸ As a matter of fact, the Autorite de la Concurrence observed that Google's large user base is advertisers' main justification for opening an AdWords account: polled advertisers contended *inter alia* that Google is "an inescapable feature of the web", and that it enjoys an "hegemony in Internet searches."²²⁹ Indirect network effects are thus easy to appreciate: more users on the free side will attract more advertisers on the paid side, since advertisers value a larger audience to which they can target their ads. These indirect network effects are combined with and fuelled by the abovementioned economies of scale, scope and speed, thereby giving rise to a self-reinforcing positive feedback loop which has been called the "virtuous cycle":²³⁰ as Google attracts more users with its free services (search engine, maps, YouTube, and so on), it is able to gather larger amounts of valuable user data necessary to improve its search algorithms and develop user profiles, and such user data obtained on the free side can be reprocessed and reused to better target users with targeted advertising. In turn, by being able to target users with more relevant ads, "the search engine is more likely to attract advertisers (as consumers are more likely to click on their ads) and thereby increase its advertising revenue and profits. Moreover, the search engine can target users with these personalised ads across media (such as on their personal computers, smartphones, tablets and soon, household appliances) and across services (such as texts, maps, videos, etcetera). This too increases the likelihood of consumers clicking on a relevant sponsored ad [...] or seeing a display ad."²³¹

The degree to which advertisers are dependent on Google's search ads are reflected in Google's freedom to set a keyword policy that is disapproved by both media agencies and advertisers. In 2010 Google announced that it would no longer prohibit the use of brand

²²⁸ Autorité de la Concurrence (n 99) 48.

²²⁹ *ibid* 45.

²³⁰ FTC Staff (n 86) 76.

²³¹ Maurice E Stucke and Ariel Ezrachi, 'When Competition Fails to Optimize Quality: A Look at Search Engines' (2016) 18 Yale Journal of Law and Technology 70, 88.

names as keywords in advertisements, even as keywords on which companies other than the brand owner intend to bid. The decision was highly disapproved by advertisers, but Google implemented it nevertheless. As a result, Google is able to “impose a new rule without fearing a falloff in demand or defection to the competition.”²³²

Nevertheless, it may be the case that other types of advertising exert competitive pressure upon paid search. In the context of the *Google/DoubleClick* merger case, then FTC Commissioner Harbour argued that search and display advertising were converging, especially in terms of targeting capabilities.²³³ In the European version of this case, the Commission noted that the ability of non-search ads to target relevant costumers was improving, and that part of search advertising expenditure was being focused on generating brand awareness and not only towards directly generating sales, for which reasons “from an advertiser’s point of view search and [display] ads can be considered substitutable to a certain extent.”²³⁴ However, the Commission also observed that from the publishers’ perspective “there is no possible substitution between selling ad space for search and selling ad space for [display]”, as a result of which publishers consider search and display ads as “rather complementary in the sense that search advertising ‘completes’ or ‘complements’ the sale of [display] advertising space by publishers.”²³⁵ Accordingly, substitution between these two types of advertising is limited, which justifies the definition of separate markets for each of them, but nevertheless, these two types of advertising might constrain each other to some extent.

By having the largest network of advertisers, Google is able to dominate the search advertising intermediation market, which in turn reinforces its position in the horizontal search market. Given the size of some website publishers (for example, eBay or Amazon), Google is able to secure a large number of search queries to enhance its scale effects and improve its search and ad serving algorithms.²³⁶ In turn, foreclosure of competing search engines from a substantial part of the search advertising intermediation market through

²³² Autorité de la Concurrence (n 99) 44.

²³³ Pamela Jones Harbour, ‘Dissenting Statement of Commissioner Pamela Jones Harbour - Google/DoubleClick, FTC File No. 071-0170’, 7
<https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf>.

²³⁴ *Google/DoubleClick* (n 99) [52–53].

²³⁵ *ibid* [54–55].

²³⁶ Federico Etro, ‘Leadership in Multi-Sided Markets and Dominance in Online Advertising’, in J. Harrington and Y. Katsoulacos (Eds), *Recent advances in the analysis of competition policy and regulation* (Edward Elgar Publishing 2012).

exclusive or restrictive agreements like those found by the FTC²³⁷ reduces their ability to achieve minimum efficient scale and thus to compete effectively with Google.²³⁸ As a matter of fact, website publishers represented to the FTC that Bing's search syndication offering is inferior, at least partly because Microsoft's network of advertisers is smaller than Google's.²³⁹ With its considerably larger advertiser base, Google is more likely to have high-quality and more relevant ads for any given query, which improves its monetisation rate relative to Microsoft to a significant extent.²⁴⁰

Indeed, not only do Google's competitors get far fewer queries than Google, but also their syndication partners make significantly less money on each click. Amazon, Google's second largest syndication partner after eBay, reported to the FTC that Bing and Yahoo!'s advertisements monetise at about 46% the rate of Google's advertisements. Because of this 'large monetisation gap', Amazon explained to the FTC, Amazon only uses Bing and Yahoo! for a very small percentage of its total search syndication needs.²⁴¹

In view of the above, it is highly likely that Google holds a dominant position in the markets for horizontal search, search advertising and search advertising intermediation. As Chirita contends, "[t]he problem is that the competitive pressure on Google is either ineffective or non-existent."²⁴² In particular, the strength of indirect network effects from the user to the advertiser side, and the self-reinforcing positive feedback loop between the three markets fuelled by learning-by-doing and economies of scale, scope, and speed, tend to consolidate Google's position, insulating it from meaningful competitive pressure.

5.2 Facebook

As explained in Section I.5.2.1, defining a market for online social networking services can prove tremendously difficult and to some extent arbitrary. Since market definition will be inevitably imprecise, market share calculations should not play a preponderant role; however, market share analysis can still serve as a screening tool to dismiss cases in which

²³⁷ FTC Staff (n 86) 58.

²³⁸ Lianos and Motchenkova (n 218) 10.

²³⁹ FTC Staff (n 86) 56.

²⁴⁰ *ibid.*

²⁴¹ *ibid.* 60.

²⁴² Anca D Chirita, 'Google's Anti-Competitive and Unfair Practices in Digital Leisure Markets' (2015) 11 *The Competition Law Review* 119, 135.

market power is unlikely. Even if a wide market definition including YouTube (which is not quite a social network) and other specialised social networks like LinkedIn and Pinterest is adopted on the user side, Facebook is the undisputed market leader with a market share of 43.9% as of February 2016.²⁴³ This share varies depending on the country. For example, as of March 2016, Facebook has a market share of 82.56% in the UK.²⁴⁴ In addition, Facebook's number of daily active users has increased steadily from 665 million in Q1 2013 to 936 million in Q1 2015.²⁴⁵ Hence, it is possible to preliminarily conclude that Facebook is extremely popular amongst users and enjoys a position of leadership in broadly defined market for social networking services, for which reason further analysis is warranted.

The technology necessary to create a social networking platform seems to be widely available, and capital costs appear to be minimal, as suggested by the array of existing and newly appearing social networking sites.²⁴⁶ However, it does not follow that barriers to entry are low.

Direct network effects on the user side lead to strong concentration. The more users a social networking platform has, the greater the value of the network to its members. The more friends the average user can connect with through Facebook, the more his profile and participation are worth to him personally, because the user does not have to go somewhere else to keep in touch.²⁴⁷

It has been suggested that users endure growing costs (congestion and organizational costs) as social networks grow larger, "because users' newsfeeds become increasingly difficult to manage [... and] large social networks make it harder for users to restrict certain communications to smaller subgroups, which in turn represents another type of cost".²⁴⁸ These growing costs are said to limit concentration tendencies. However, this argument is not very convincing, because platforms take measures not to overwhelm

²⁴³ Priit Kallas, 'Social Networking Sites by Market Share of Visits [February 2016]' (2016) *DreamGrow* <<https://www.dreamgrow.com/top-10-social-networking-sites-by-market-share-of-visits-february-2016/>>.

²⁴⁴ Statista, 'Social Networks Ranked by Market Share UK 2017' (2017) *Statista* <<https://www.statista.com/statistics/280295/market-share-held-by-the-leading-social-networks-in-the-united-kingdom-uk/>>.

²⁴⁵ 'Facebook World Stats and Penetration in the World - Facebook Statistics' (2017) *Internet World Stats* <<http://www.internetworldstats.com/facebook.htm>>.

²⁴⁶ Waller (n 130) 15.

²⁴⁷ Gebicka and Heinemann (n 58) 161.

²⁴⁸ Christopher S Yoo, 'When Antitrust Met Facebook' (2012) 19 *George Mason Law Review* 1147, 1150.

users. For example, Facebook uses algorithms based on its users' revealed preferences and friends to filter the information shown in their newsfeed and make it more attractive to their interests.²⁴⁹

Moreover, lack of interoperability reinforces direct network effects and protects the incumbent's user base. If users cannot communicate across social network platforms, they will have the incentive to join the largest network in order to be able to interact with a greater universe of users. More users will attract more users, and so on. As Gebicka and Heinemann observe, "there is the idea of 'I will have a Facebook profile because everyone is on Facebook', which suggests facility and as such guarantees less effort, and in consequence attracts more and more people."²⁵⁰

Furthermore, lack of data portability results in high switching costs, because contacts, shared information, messages, comments and photographs cannot be transferred when switching to a different network.²⁵¹ To circumvent lack of data portability, users of course have the alternative of reposting their profile information, wall posts, photos, videos, and any other information, but this alternative is of course time consuming, impossible in certain cases and subject to errors, for which reason users are more likely to "simply live with their existing Facebook page."²⁵² Accordingly, users become locked-in and will not switch to other social network providers, even though they are entirely free to do so if they wish.²⁵³ The right to data portability introduced by the recently passed GDPR²⁵⁴ is expected to change this scenario, although its impact on competition in social network markets remains uncertain.²⁵⁵

Lock-in effects are demonstrated by the fact that users have opposed to several policy and operating changes on the part of Facebook,²⁵⁶ without actually switching to competing

²⁴⁹ Monopolkommission (n 145) 72.

²⁵⁰ Gebicka and Heinemann (n 58) 160.

²⁵¹ Monopolkommission (n 145) 73.

²⁵² Waller (n 130) 19.

²⁵³ Gebicka and Heinemann (n 58) 160.

²⁵⁴ See Article 20 GDPR.

²⁵⁵ "Considering the different design features of social networks, it could become difficult, if not impossible, to come up with a format that would ensure that all the transferred data is displayed in the same way as in the social network from which the data was extracted." Inge Graef, 'Mandating Portability and Interoperability in Online Social Networks: Regulatory and Competition Law Issues in the European Union' (2015) 39 Telecommunications Policy 502, 507–508.

²⁵⁶ See for example Richard King, 'Facebook terms: "All Your Content Are Belong to Us"' (2009) *Richard's Kingdom* <<https://richardskingdom.net/facebook-terms-of-service-all-your-content-are-belong-to-us>>.

platforms. Indeed, changes to Facebook's privacy policies are a matter of course,²⁵⁷ but such changes have not caused any real impact whatsoever upon Facebook's growth.

Switching costs are reinforced by the stickiness of Facebook: it is remarkably difficult to terminate a Facebook account.²⁵⁸ As Weber Waller observes:

“[w]hile temporary deactivation is not particularly difficult, it can be psychologically and socially difficult, with friends, colleagues, and family members being unable to reach you through the system and inquiring off-line if everything is ok. Moving from temporary to permanent deactivation is even more difficult. Facebook requires a two-week period before taking down a page. Failure to deactivate certain links to Facebook or inadvertently hitting the “Like” or “Share” on other websites will nullify the deactivation and require beginning again.”²⁵⁹

Heterogeneous preferences can in principle constrain Facebook's market power on the user side, provided that users switch to differentiated platforms. However, these differentiated platforms tend to be specialised social networks that serve a specific market niche, focusing on a determined user group (like LinkedIn that serves professionals) or by emphasising functionalities like pictures sharing (like Instagram), and hence are considered by users as complementary rather than substitute services.²⁶⁰ Indeed, they tend to be used in tandem with Facebook instead of one another. As a result, it is doubtful “that these services are able to endanger the market position of a broader-based service with a larger number of users in the long term.”²⁶¹

Further, Facebook offers APIs and tools to application developers so they can develop and integrate apps in the platform, thereby having direct access to Facebook's users. In this way, users can access more and more applications without leaving their Facebook

noting consternation in the press and the blogosphere about recent changes to Facebook's terms of use; Andrew Tarantola, ‘Facebook Changes “Real Name” Policy Rules after Public Outcry’ (2015) *Engadget* <<https://www.engadget.com/2015/10/30/facebook-changes-real-name-policy-rules-after-public-outcry/>>: ‘Facebook has no plans to do away with the controversial policy.’

²⁵⁷ Kashmir Hill, ‘What You Actually Need To Know About The Changes Facebook Is Making To Its Privacy Policy’ (2012) *Forbes* <<https://www.forbes.com/sites/kashmirhill/2012/11/26/what-you-actually-need-to-know-about-the-changes-facebook-is-making-to-its-privacy-policy/#6be19f6a148d>>: ‘Facebook is changing its privacy policy. Again.’ See also Chapter 5 Section II.5.2.2.1.

²⁵⁸ Dan Frommer, ‘Deleting Your Facebook Account Is So Hard That Even Jason Calacanis Couldn't Get Rid Of His*’ (2010) *Business Insider* <<http://www.businessinsider.com/deleting-your-facebook-account-is-so-hard-that-even-jason-calacanis-couldnt-get-rid-of-his-2010-6>>.

²⁵⁹ Waller (n 130) 18.

²⁶⁰ Monopolkommission (n 145) 73. See above Section I.5.2.1.

²⁶¹ *ibid.*

page, which generates more traffic, data and user engagement. Positive indirect network effects flow between users and application developers: more users increase Facebook's value to the developer side, since app developers can reach a larger audience with their apps, and more app developers enhance the value of the platform to the user side, since users have more apps at their disposal.

Moreover, a large social network platform with a large user base will be certainly more attractive to advertisers than a small network with few users. There are strong indirect network effects stemming from the user side that link the advertiser side: more users entail more eyeballs advertisers can reach with their ads, and at the same time, more users provide the social network platform with more valuable data in the form of postings, comments, likes, shared pictures, videos and stories and the like, which allow the social networking site to develop more detailed user profiles and therefore to enhance its ad targeting capabilities to the benefit of advertisers. As a result, it is possible to appreciate a 'virtuous cycle' similar to Google's: more users attract more users and generate more data; data is used to improve users' social networking experience by making their social interactions more relevant to their interests; in turn, data is used to create user profiles and derive valuable insights to better target advertisements,²⁶² and this combination of more users/more data attracts more advertiser engagement, in a positive feedback loop reinforced by high switching costs to users and system stickiness.

The application of the test proposed in Chapter 2 leads to the conclusion that Facebook's data advantage raises barriers to entry. With 2 billion monthly active users as of the second quarter of 2017,²⁶³ Facebook is able to collect large amounts of personal data that are not available to its competitors in the same volume. Its recent acquisitions of Instagram and WhatsApp expanded the scope of Facebook's data collection capabilities. Accordingly, Facebook has at its disposal the largest amount of data relevant for social network interactions and for the provision of display and social targeted ads. It must be noted, however, that Facebook's data advantage is highly dependent on direct network effects and user engagement. Facebook has explained that "[t]he size of our user base and

²⁶² "In social advertising, marketers use online social relationships to target and improve their ads." Tucker and Marthews (n 119) 1224.

²⁶³ Statista, 'Number of Facebook Users Worldwide 2008-2017' (2017) *Statista*
<<https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>>.

our users' level of engagement are critical to our success",²⁶⁴ and that it is vital to encourage a broad range of users to contribute content. This is because, if users stop engaging on Facebook, the quality and frequency of postings would decrease, the platform would become less attractive to others as a result of lack of new content, there would be less data, and Facebook's profits would accordingly decrease.²⁶⁵ Indeed, lack of consumer engagement and the strength of Facebook's direct network effects are the explanation of Google's unsuccessful attempt of entry into the social networking market: in 2011 Google launched its Google+ social network, which quickly became the "fastest-growing network thingy ever", with more than 500 million users in just 18 months.²⁶⁶ However, Google could not convince users to share content on and engage with its social network platform. Google+ could not overcome Facebook's direct network effects, because users wanted to share content where their *entire* group was, and they did not want to have a shared social network experience in a second redundant place.

As a direct consequence of the above, the threat of potential competition does not seem to be a credible constraint disciplining Facebook. If Google, with its financial strength and big data advantage, was unsuccessful in its attempt to displace Facebook, it seems unlikely that other undertaking may succeed in doing so. Disruptive innovation from unexpected sources, as Schumpeterians contend, is always a threat in high-tech markets, but if not supported by evidence and a dynamic record of entry into the market, it is only speculation, and as such, it should not be given too much weight.

Insofar as Facebook remains being the leading social networking platform with the largest user base, it will continue attracting more advertisers. In 2014 Facebook reached a 75% market share of global social ad spending.²⁶⁷ Moreover, Facebook offers the possibility to advertise with 'sponsored stories'. Sponsored stories are generated from the actions a user takes with an advertiser's business or app (for example, when a user or 'fan' likes one advertiser's page), and conveyed to such user's contacts (friends) on their newsfeeds. Since sponsored stories take the form of user content, they tend to elicit a different type

²⁶⁴ Form 10-K for the Fiscal Year Ended on 31 December 2014, quoted in Ariel Ezrachi and Maurice Stucke, *Virtual Competition* (Harvard University Press 2016) 235.

²⁶⁵ *ibid.*

²⁶⁶ Google, 'Google+: Communities and Photos' (2012) *Official Google Blog* <<https://googleblog.blogspot.com/2012/12/google-communities-and-photos.html>>.

²⁶⁷ Martin Beck, 'Facebook Accounted For 75% Of Social Ad Spending Globally In 2014' (2015) *Marketing Land* <<http://marketingland.com/facebook-accounted-for-75-of-social-ad-spending-globally-in-2014-123911>>.

of reaction and engagement from users. As noted by Facebook, “[w]hen people hear about your brand from their friends, they’re twice as likely to engage.”²⁶⁸ Accordingly, these social ads are reportedly more effective (obtain higher CTR) than display ads.²⁶⁹ In *Facebook/WhatsApp*, the Commission noted that several respondents considered that other forms of non-search advertising are “not as effective as advertising on social networking websites and notably on Facebook, due to Facebook’s large and highly engaged audience and its ad targeting opportunities.”²⁷⁰ This is consistent with Tucker and Marthews’ findings: “when advertisers target ads based on who is friends with whom, they can double the number of clicks, because advertisers can uncover consumers who may also be interested in their product.”²⁷¹

However, insofar as social ads are constrained by display ads, the market power enjoyed by Facebook on the advertiser side is likely to be reduced. In a display advertising market that includes social ads for market share calculations, Facebook remains the leader with 25% market share, but the market becomes fairly fragmented with Google having 13%, Twitter 5%, Yahoo! 5%, AOL 4%, Amazon 3%, Microsoft 2% and LinkedIn 1%.²⁷² At any rate, if a relevant market for social ads is defined, any constraining effect stemming from display ads and even paid search must be considered (even if such types of advertising are not included in the relevant market), as their combined pressure could indeed constrain Facebook’s market power in such relevant market.

In view of the above, it is argued that Facebook holds a dominant position in the social networking services market. It is also likely that Facebook holds a dominant position in the market for social ads, but such conclusion depends largely on the competitive pressure stemming from other display ads and search advertising.

²⁶⁸ Facebook, ‘Sponsored Stories for Marketplace - Facebook’ (2011) *yumpu.com* 2
<<https://www.yumpu.com/en/document/view/27691723/sponsored-stories-for-marketplace-facebook>>.

²⁶⁹ See generally Tucker (n 155).

²⁷⁰ *Facebook/WhatsApp* (n 99) [77].

²⁷¹ Tucker and Marthews (n 119) 1225.

²⁷² Team Trefis, ‘Digital Advertising Landscape And Key Players’ (*Forbes*, 2015)
<<http://www.forbes.com/sites/greatspeculations/2015/07/09/u-s-digital-advertising-landscape-and-key-players-part-2/>>.

5.3 eBay

Whilst eBay is undoubtedly one of the leaders of a broad market for online marketplaces, it does not automatically follow that it holds a dominant position therein. As the Commission observes, there are several other important players in such market, including Amazon, Allegro, Spartoo, Zalando and Chrono24, for which reason this market seems to be fairly fragmented. However, the methods to measure market shares in these markets are subject to important limitations. Sometimes, market shares are based on traffic.²⁷³ Alternatively, market shares are calculated based on a total market consisting of the net turnover of the largest online shops trading physical goods in a geographic area.²⁷⁴ Market shares based on traffic or turnover can only provide information on an online marketplace's popularity, sales volume and size. However, little can these market shares tell about the extent to which eBay may behave independently in respect of specific types of sellers or products. Therefore, the consideration of additional factors is necessary.

Firstly, eBay's strong position can be explained mainly by positive indirect network effects between sellers and buyers. The value of eBay increases to both groups the more both groups of customers grow.²⁷⁵ In addition, reputation systems amount to a significant switching cost, especially for sellers. According to Gross and Acquisti, eBay's reputation system is remarkable both for the amount of feedback provided by its users (more than half of completed transactions result in feedback provided by the seller or the buyer or both) and for the overwhelming percentage of positive feedback.²⁷⁶ Resnick & Zeckhauser explain this phenomenon: eBay users feel a sense of belonging to a community that they are committed to maintain, and 'courtesy feedback', or the exchange of reciprocal kindness, as well as fear of retaliation, lead to buyers and sellers providing predominantly positive feedback.²⁷⁷ These disincentives to provide negative feedback, even when unsatisfactory transactions take place or the buyer experience is negative, enhance the overall reputation of eBay's platform, which in turn boost positive network effects

²⁷³ European Commission (n 4) 17–18.

²⁷⁴ Monopolkommission (n 145) 85.

²⁷⁵ Glenn Ellison and Sara Fisher Ellison, 'Lessons about Markets from the Internet' (2005) 19 *The Journal of Economic Perspectives* 139.

²⁷⁶ Ben Gross and Alessandro Acquisti, 'Balances of Power on Ebay: Peers or Unequals' (2003) Workshop on Economics of Peer-to-peer systems <<http://groups.ischool.berkeley.edu/archive/p2pecon/papers/s2-gross-old.pdf>>.

²⁷⁷ Paul Resnick and Richard Zeckhauser, 'Trust among Strangers in Internet Transactions: Empirical Analysis of eBay's Reputation System', in Michael R. Baye (ed), *The Economics of the Internet and E-commerce (Advances in Applied Microeconomics, Volume 11)* (Emerald Group Publishing Limited 2002).

between buyers and sellers. Moreover, it is difficult to build up reputation on several online trading platforms, since reputation depends on the number of transactions a seller has successfully consummated on a specific network.²⁷⁸ On top of that, as demonstrated by Resnick *et al.*, good reputation allows sellers to charge higher prices,²⁷⁹ and since transferring reputation from one platform to another is not possible, established sellers become locked in. The reputation mechanism also works for buyers to some extent, although it is less important than for sellers.

Secondly, eBay, as well as other online marketplaces, have increasing scale effects, which lead to market concentration. This is because operating an online trading platform entails relatively high fixed costs (for example, the management of databases), but the variable costs triggered by additional transactions are significantly low, which makes it more difficult for potential newcomers to enter the market, as they have to make considerable infrastructure investments.²⁸⁰ However, scope for differentiation reduces concentration in e-marketplaces: in addition to the market leaders eBay and Amazon Marketplace, which have a comprehensive range of products, there are several platforms specialising in selling automobiles (Shift), real estates (Zeppedy), music gear (Reverb), clothing (Zalando) and other specific products. The possibility to multihome between these platforms reduces the strength of eBay's market power.

More crucially, militating against eBay's and other online marketplaces' market power is the fact that online retail, at least for certain products, is essentially *one* distribution channel, which means that, as a matter of principle, sellers can sell somewhere else (online or offline) to pay a lower commission or avoid paying the commission altogether, and buyers can shift their demand to other online outlets or brick-and-mortar shops based on price and/or convenience considerations.²⁸¹ To assess market power more conclusively, therefore, it is necessary to determine whether sellers and buyers can trade somewhere else.

²⁷⁸ Justus Haucap and Ulrich Heimeshoff, 'Google, Facebook, Amazon, eBay: Is the Internet Driving Competition or Market Monopolization?' (2013) DICE Discussion Paper No.83 11–12.

²⁷⁹ Resnick *et al.* demonstrated that established eBay dealers can charge up to 8.1% more. See Paul Resnick, Richard Zeckhauser, John Swanson and Kate Lockwood, 'The Value of Reputation on eBay: A Controlled Experiment' (2006) 9 *Experimental economics* 79.

²⁸⁰ Monopolkommission (n 145) 88.

²⁸¹ "At any point in time, the seller and buyer can decide to move their transaction to a direct, non-intermediated transaction. This is a fundamental constraint on online marketplaces." Copenhagen Economics, 'Economic Effects of Online Marketplace Bans' (2016) 17.

In the Staff Working Document accompanying the Final Report on the e-commerce sector inquiry, the Commission observed that 61% of the respondent retailers use their online shops as the sole online selling channel; 31% of the respondent retailers sell via their online shops as well as on marketplaces; and 4% of the respondent retailers sell online via online marketplaces only.²⁸² Accordingly, the first group of retailers constrain eBay's market power when the products they sell are also sold on eBay. In addition, since they have no other alternatives to reach a large audience online, eBay's market power is likely to be stronger in respect of the last group of retailers, which is comprised of small- and medium-sized enterprise (SME) retailers,²⁸³ and weaker in respect of the second group, as its members have the option to sell via their proprietary online shops (although this assessment must be made on a case-by-case basis, as some proprietary online shops will lack the necessary traffic to be a viable alternative to selling on online marketplaces).

Moreover, the Commission also observed:

Marketplaces are particularly relevant for retailers selling clothing and shoes and consumer electronics. In contrast, the average proportion of sellers on marketplaces selling household appliances or computer games and software is more limited. The importance of marketplaces as a sales channel also differs depending on the nature of the product and whether customers would expect to find the products for sale on marketplaces.²⁸⁴

Therefore, the market power of eBay and other online marketplaces also depends on the product at hand. Generally, market power will be stronger in respect of products that are commonly or almost exclusively traded in online marketplaces. In this connection, the Monopolkommission has called into doubt a possible dominant position of Amazon in a market for online book trade where it holds a market share of approximately 80%, as consumers are likely to switch to stationary book trade in case of an exercise of market power on Amazon's part.²⁸⁵ Conversely, second-hand products are traded almost exclusively on online marketplaces, especially on eBay,²⁸⁶ as they are sold by individuals

²⁸² European Commission, 'Commission Staff Working Document - Accompanying the Document Final Report on E-Commerce Sector Inquiry' (2017) 134.

²⁸³ '[M]arketplaces are an important sales channel especially for smaller and medium-sized retailers. For some of them, marketplaces are the only sales channel whereas others conclude the majority of their online transactions using this sales channel.' *ibid* 140.

²⁸⁴ *ibid* 151.

²⁸⁵ Monopolkommission (n 145) 85–86.

²⁸⁶ eBay is the 'world's largest online trading platform for used goods.' See Jens Clausen, Birgit Blattel-Mink, Lorenz Erdmann and Christine Henseling, 'Contribution of Online Trading of Used Goods to Resource Efficiency: An Empirical Study of eBay Users' (2010) 2 Sustainability 1810, 1811.

that want to avail themselves of the possibility to reach a large audience of buyers through the platform, for which reason eBay's market power will be stronger in respect of this segment of products.

In addition, the listing format also has implications for the assessment of market power. Online retail is essentially based on a fixed-price model, and players such as Amazon or PriceMinister only use this model. However, eBay offers a mixture of fixed prices and auctions, with the possibility to use these two formats in conjunction with each other in one listing: when this is the case, the auction runs parallel to the fixed price sale, and when a buyer selects the "buy-it-now" function, the auction ends automatically.²⁸⁷ This listing flexibility and the availability of auction format increase the attractiveness of eBay and raise switching costs for sellers of products for which the auction format is more popular, as is the case of goods in limited supply where the demand is unknown to the seller and it is difficult for the seller to know the appropriate price, such as idiosyncratic products,²⁸⁸ antiques, coins and celebrity memorabilia.²⁸⁹ Accordingly, some sellers, such as SME retailers, antique dealers and individuals selling second-hand products, may be effectively locked-in to eBay when they have no other viable alternatives to reach a large audience of buyers. eBay's loyalty-enhancing features and investments, such as loyalty schemes, customer support, recommendation functionalities, customer reviews and convenient payment methods (i.e. PayPal), reinforce lock-in effects.

With 167 million active users and 25 million active sellers as of March 2017,²⁹⁰ eBay has access to a tremendous amount of transactional data and purchasing behaviour, which it uses to boost sales through product recommendations targeted to specific consumers based on their revealed interests. As Graef observes, "[t]he collection and analysis of data about the purchasing behaviour of users, their virtual shopping cart and the items they have viewed, liked or rated permits the platform to better predict in what products users are interested based on their similarity with other users."²⁹¹ Product recommendations

²⁸⁷ Christine Riefa, *Consumer Protection and Online Auction Platforms: Towards a Safer Legal Framework* (Ashgate Publishing, Ltd 2015) 5–6.

²⁸⁸ Such as collectibles, fan shop, toys, jewellery and clothing. See Liran Einav, Chiara Farronato, Jonathan Levin and Neel Sundaresan, 'Auctions versus Posted Prices in Online Markets' (2016) NBER Working Paper Series, No. 19021 20.

²⁸⁹ Riefa (n 287) 8.

²⁹⁰ Craigh Smith, '55 Amazing eBay Statistics and Facts' (2017) *DRM Stats* <<http://expandedramblings.com/index.php/eBay-stats/>>.

²⁹¹ Inge Graef, 'Market Definition and Market Power in Data: The Case of Online Platforms' (2015) *World Competition* 38, No. 4 473, 477.

enabled by data analysis increase sales and sellers' revenues, thereby attracting more sellers and more product offerings, which in turn attracts more buyers. Access to this data has enabled eBay (and also other large e-marketplaces like Amazon) to enter the display advertising market. However, eBay has not been able so far to challenge established players like Facebook and Google, and remains a minor player in that market.

The application of the test included in Chapter 2 to analyse a 'data-advantage' leads to the conclusion that, whilst eBay has indeed a data-driven competitive advantage relative to other smaller players and potential entrants, such a data-advantage does not raise insurmountable barriers to entry. This is due to the role that data plays in online marketplaces' business models: whilst data can boost a platform's sales as a result of the knowledge on consumer preferences it provides, data is not of the essence to intermediate transactions between sellers and buyers. Rather, the key to an online marketplace's success is the exploitation of indirect network effects: when the platform manages to get both sides on board in sufficient numbers,²⁹² indirect network effects operate in a positive feedback loop which derives into a comprehensive product catalogue and large audience of buyers.²⁹³ Data can, of course, assist in the efforts to reach such an outcome, but lack of access to data does not prevent a platform from providing the matchmaking service.²⁹⁴

Dynamic competition constrains eBay's market power to some extent. As eBay reports:

“we continuously invest in innovation and technology aimed at more efficiently connecting buyers and sellers on our platform. For example, in recent years we have heavily invested in machine learning and artificial intelligence technology that can be deployed in areas such as machine translations of listings, trust and safety measures, and improving the search and site user experience.”

These efforts signal healthy dynamic competition in the market for online marketplaces. Yet, the constraints stemming from dynamic competition should not be overstated: as Haucap and Heimeshoff observe, eBay has enjoyed a position of leadership almost from

²⁹² See Chapter 2 Section I.3.1.

²⁹³ According to the Commission, the range of available products is the most important parameter of competition for online marketplaces, even preceding price considerations. See European Commission (n 282) 47.

²⁹⁴ As opposed to search engines and social network platforms, since their services cannot be provided without access to data.

the early beginnings of e-commerce, especially in online auctions,²⁹⁵ and this position has not been challenged by innovative entrants.

In view of the above, it is posited that eBay does not hold a dominant position in the market for online marketplaces. Crucially, this market has another big player (Amazon), as well as several marketplaces specialised in specific products which constrain eBay's market power with regard to the relevant product categories. Perhaps more importantly, eBay and all other trading platforms and online retailers face to a greater or lesser extent competition from both online and offline shops. Customers can buy products from a wide range of retailers, distributors, shopping malls, price comparison portals and the like. At least in theory, if eBay increases its fees significantly, sellers are likely to pass this cost on to consumers, and if the products sold by eBay's sellers are offered at lower prices on other trading platforms or brick-and-mortar shops, buyers are likely to make their purchases somewhere else. This circumstance limits eBay's ability to increase its fees, which suggests that eBay's market power is indeed mitigated by forces lying within and outside its relevant markets.

This is not tantamount to arguing that eBay does not have market power. If narrow markets are distinguished, such as a market for online auctions of used products or idiosyncratic products, it is highly likely that eBay holds a dominant position therein, as sellers are significantly limited in their possibilities to reach a similar audience of buyers through other channels. At any rate, this analysis must be carried out on a case-by-case basis.

III. Data-Driven Abusive Conduct

1. General

Broadly speaking, loss of users may degrade the quality of a platform's product and reduce its ability to attract and retain users, advertisers or sellers (depending on the platform's business model). If a platform acquires more users relative to its competitors, a quality gap is likely to arise, and if the quality differences become noticeable to users, data-

²⁹⁵ Haucap and Heimeshoff (n 278) 11.

driven network effects may accelerate the quality gap through a feedback loop, thereby attracting new users and the competitors' users.

Under this dynamic, the incentive of online firms to engage in anticompetitive behaviour to tip the market in their favour and achieve and/or maintain a monopoly is a significant one. When that incentive is coupled with the ability to resort to anticompetitive practices, dominant platforms can readily distort the competitive process, to the detriment of consumers. The Sections below outline some data-driven abusive practices in which online platforms may engage. The potential of these practices being implemented by dominant firms confirms and reinforces the need for competition authorities to remain alert and vigilant in online markets.

2. Exclusionary Conduct

Article 102 TFEU prevents dominant undertakings from “limiting production, markets or technical development to the prejudice of consumers.” Any unlawful foreclosure or handicapping of competitors, by which competition is hindered even further to the detriment of consumers, is a form of ‘limiting production’ captured by this provision.

In the data-driven economy, production, markets or technical development may be limited when firms are unlawfully prevented from having access to critical data in a timely manner. To this effect, dominant undertakings may resort to exclusionary practices such as *inter alia* exclusive dealing and refusal to supply.

2.1 Exclusive Dealing

Online platforms may prevent rivals from accessing data through exclusivity provisions with third-party providers. This type of conduct is currently under investigation in the Commission's probe into Google's alleged anticompetitive practices.²⁹⁶

²⁹⁶ European Commission, ‘Press Release - Antitrust: Commission Probes Allegations of Antitrust Violations by Google’ (2010) <http://europa.eu/rapid/press-release_IP-10-1624_en.htm>.

It was explained in Chapter 2 that scale is of the essence in some data-driven industries, such as search and search advertising. If smaller rivals and entrants are unlawfully prevented from accessing the scale of data necessary to compete effectively, a quality gap between the incumbent's and its competitors' services is bound to emerge, and as a result of data-driven network effects, such quality gap may increase dramatically. In this context, the Commission is investigating certain intermediation agreements into which Google has entered with website publishers for the provision of search and search advertising services on their websites.²⁹⁷ The Commission has sent to Google a Statement of Objections with the preliminary view that certain agreements with a limited number of large third parties (the so-called "Direct Partners") imposing exclusivity (requiring third parties not to source search ads from Google's competitors), premium placement of a minimum number of Google search ads (requiring third parties to take a minimum number of search ads from Google and reserve the most prominent space on their search results pages to Google search ads, and also requiring that competing search ads cannot be placed above or next to Google search ads) and the right to authorise competing ads (requiring third parties to obtain Google's approval before making any change to the display of competing search ads) have allowed Google to protect its dominant position in online search advertising and hindered competition on the search advertising intermediation market.²⁹⁸

Relatedly, FTC Staff recommended to sue Google for the use of exclusivity provisions in search and search advertising syndication agreements. FTC Staff observed that Microsoft's greatest challenge was to obtain sufficient scale through collection of search and search advertising data,²⁹⁹ and that Google resorted to contractual restrictions to prevent Microsoft from gaining the scale of data necessary to compete in the markets for general search and search advertising in violation of Section 2 of the Sherman Act.³⁰⁰ In particular, FTC Staff noted that Google had tied up a substantial portion of the search advertising syndication market: Google had exclusive or restrictive agreements with 12 of the top 20 companies (60%) and 4 of the top 5 (80%), with the 20 largest companies accounting for 94% of total query volume.³⁰¹ Access to such largest top companies was by far the most efficient method for Microsoft's Bing to gain query volume in the search syndication channel, but Google effectively blocked such access.

²⁹⁷ European Commission (n 126).

²⁹⁸ *ibid.*

²⁹⁹ FTC Staff (n 86) 76.

³⁰⁰ *ibid* 94.

³⁰¹ *ibid* 104.

FTC Staff observed that “Google’s interest in renewing deals with some of its largest syndication customers may have been, in part, to keep Microsoft from gaining scale.”³⁰² Google’s exclusionary intent was clearly depicted in internal documents regarding the 2010 AOL syndication agreement renewal:

“AOL holds marginal search share but represents scale gains for a Microsoft + Yahoo! Partnership ... AOL/Microsoft combination has modest impact on market dynamics, but material increase in scale of Microsoft’s search & ads platform.”³⁰³

Within this context, “[w]hen a senior Google executive was informed that Microsoft [was] aggressively wooing AOL with large guarantees,”³⁰⁴ he responded:

“I think the worse case scenario here is that AOL users get sent to Bing, so even if we make AOL a bit more competitive relative to Google, that seems preferable to growing Bing.”³⁰⁵

FTC Staff observed that according to “Google documents, the company sought to pursue the AOL deal aggressively even though AOL represented “[a] low/no profit partnership for Google [...]”³⁰⁶ Ultimately, FTC Staff concluded that “Google’s exclusive and restrictive agreements have not only helped to maintain, preserve, and enhance Google’s monopoly power in the market for search and search advertising syndication (search intermediation), but also in the underlying markets for search and search advertising.”³⁰⁷

Search engines can be accessed in different ways, and Google’s exclusivity provisions are not limited to search advertising intermediation agreements with web publishers. Google has, for example, concluded exclusive search default distribution deals with Mozilla Firefox, Apple’s Safari and Opera, under which each of these browsers had Google as a the default search engine.³⁰⁸ Similarly, in the Commission’s Android investigation, the Commission has found that “Google has granted significant financial incentives to some

³⁰² *ibid* 108.

³⁰³ *ibid*.

³⁰⁴ *ibid*.

³⁰⁵ *ibid*.

³⁰⁶ *ibid*.

³⁰⁷ *ibid* 112.

³⁰⁸ Damien Geradin and Monika Kuschewsky, ‘Competition Law and Personal Data: Preliminary Thoughts on a Complex Issue’ (2013) SSRN paper 8
<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2216088>.

of the largest smartphone and tablet manufacturers as well as mobile network operators on condition that they exclusively pre-install Google Search on their devices.”³⁰⁹ These exclusive distribution agreements are likely to compound foreclosure effects for rival search engines, as they reduce even further the availability of channels to access search and search advertising data.

2.2 Refusal to Supply

In light of the significance of data in online markets, some have questioned whether the rivals of an incumbent could rely on Article 102 TFEU to gain access to large troves of data they need to compete effectively; that is to say, whether data can be considered as some sort of “essential facility”.³¹⁰

The ‘essential facility doctrine’ is framed within the context of refusals to deal, and is based on the idea that a monopolist has a duty to ‘share’ its facilities with everyone asking for access, including competitors, for which reason it stands as a narrow exception to the general rule that undertakings, even monopolistic ones, are free to deal with whom they may deem fit. Unsurprisingly, only under exceptional circumstances may an obligation to deal be imposed on dominant undertakings on the basis of the essential facilities doctrine.

According to the CJEU rulings in *Magill*,³¹¹ *Bronner*,³¹² and *IMS Health*,³¹³ such exceptional circumstances are: (i) the refusal in question concerns a product the supply of which is indispensable for carrying out the business in question, (ii) the refusal prevents the emergence of a new product for which there is potential consumer demand, (iii) the refusal is not justified by objective considerations, and (iv) the refusal is likely to exclude all competition in the secondary market. Perhaps the indispensability criterion is the most difficult to meet. In *Bronner*, the CJEU specified that a product or service is indispensable only (a) if there are no alternative products or services, and (b) there are technical, legal or

³⁰⁹ European Commission, ‘Press Release - Antitrust: Commission Sends Statement of Objections to Google on Android Operating System and Applications’ (2016) <http://europa.eu/rapid/press-release_IP-16-1492_en.htm>.

³¹⁰ See generally Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (Kluwer Law International 2016); Geradin and Kuschewsky (n 308).

³¹¹ Joined Cases C-241/91 P and C-242/91 P, *Radio Telefís Éireann (RTE) et Independent Television Publications (ITP) v Commission (Magill)* [1995] ECR I-0743 [50].

³¹² Case C-7/97, *Oscar Bronner GmbH & Co KG* [1998] ECR I-7791 [44–45].

³¹³ Case C-418/01, *IMS Health GmbH & Co OHG v NDC Health* [2004] ECR I-5039 [37].

economic obstacles that make it impossible or unreasonably difficult for any undertaking seeking to operate on the downstream market to develop, possibly in cooperation with other companies, alternative products or services.³¹⁴

In view of the strictness of the abovementioned requirements, it is safe to argue that a refusal to supply data will be abusive only if it is proven that the data owned by the incumbent is truly unique, and that there are no other ways for the competitor to obtain the data that it needs to supply its services.³¹⁵ In particular, the indispensability requirement, which demands that there are no economically viable alternatives³¹⁶ to obtain the input the supply of which is required, is especially hard to meet.

However, in *Microsoft*³¹⁷ the GC seems to have lowered the standards above. With regard to the indispensability requirement, the Court held that competitors should be put ‘on an equal footing’³¹⁸ with Microsoft, rejecting the five alternative methods that in the opinion of Microsoft would have ensured a minimum level of interoperability sufficient for effective competition.³¹⁹ In addition, with regard to the ‘new product’ requirement, the GC observed that the appearance of a new product cannot be the only parameter which determines whether a refusal to license an IPR is capable of causing prejudice to consumers within the meaning of Article 102(b) TFEU, as such “prejudice may arise where there is a limitation not only of production or markets, but also of technical development.”³²⁰ Accordingly, it is possible to hypothesise a scenario where a firm requests access to data owned by an incumbent in order to be placed ‘on equal footing’ to compete and improve a currently existing product (instead of producing a new service), the refusal of which may be deemed abusive within the meaning of Article 102 TFEU. However, since the GC’s judgment in *Microsoft* was not appealed, it is uncertain whether the CJEU approves of these lower standards. According to Larouche, the GC’s lower standards may be specific to *Microsoft* in view of Microsoft’s ‘super-dominance’.³²¹ Therefore, at least in theory, this route to gain access data from an incumbent could be potentially successful when attempted against a super-dominant undertaking. At any rate,

³¹⁴ *Oscar Bronner* (n 312) [44–45].

³¹⁵ Autorité de la Concurrence and Bundeskartellamt, ‘Competition Law and Data’ (2016) 18.

³¹⁶ *Oscar Bronner* (n 312) [45].

³¹⁷ Case T-201/04, *Microsoft Corp v Commission* [2007] ECR II-3601.

³¹⁸ *ibid* [421].

³¹⁹ *ibid* [345–347], [421–422].

³²⁰ *ibid* [647].

³²¹ Pierre Larouche, ‘The European Microsoft Case at the Crossroads of Competition Policy and Innovation’ (2008) 75 *Antitrust Law Journal* 601–628.

the Commission has acknowledged that “[g]eneral competition law is applicable in the context of data-driven business models, [and it] may be invoked to claim a wider access to data held by one economic operator.”³²²

3. Leveraging Abuses

One of the most striking trends in online platform markets is the expansion of some platforms into related and/or adjacent markets. When online platforms are vertically integrated, their competitive incentives obviously change. For instance, in mobile ecosystems, when a platform owns a mobile OS, an App store and one or several popular apps, the platform finds itself in a “frenemy” relationship with independent app developers.³²³ To compete effectively, any app (for example MapQuest’s app) must be fully available and functional on Apple’s and Google’s mobile ecosystems. At the same time, as a result of indirect network effects, the app can increase demand for iPhone and Android devices. Therefore, both the app and the super-platform benefit from this relationship, and in this sense they are “friends”. However, the platform may offer competing apps on their respective App store (i.e. iOS Maps and Google Maps), and in this sense the app and the super-platforms are “enemies”. Under the ‘enemy’ prong of this relationship, the platform has an incentive to steer users and advertisers to its own apps, to the detriment of rival apps. A similar dynamic occurs when a search engine starts competing on different segments of vertical search, or when an online marketplace starts offering products that compete with those of its sellers.

In this context, according to the OECD, the platform “may seek to exclude third-party applications developers, either to protect its own vertically integrated applications subsidiary or to prevent the emergence of a potentially competing platform.”³²⁴ To this effect, the platform may *inter alia* give preferential treatment to its own products and apps, deprive the independent app or product developer of the ability to distribute its app or

³²² European Commission, ‘Staff Working Document on the Free Flow of Data and Emerging Issues of the European Data Economy - Accompanying the Communication on Building a European Data Economy’ (2017) 21 <<https://ec.europa.eu/digital-single-market/en/news/staff-working-document-free-flow-data-and-emerging-issues-european-data-economy>>.

³²³ Ezrachi and Stucke (n 264) 147 *et seq.*

³²⁴ OECD, ‘Supporting Investment in Knowledge Capital, Growth and Innovation’ 173

<<http://www.oecd-ilibrary.org/docserver/download/9213021e.pdf?expires=1497457538&id=id&accname=oid008858&checksum=B4106E6A4B3BA2759A6ED5DC67BA38C2>>.

product effectively, and degrade the independent app's functionality.³²⁵ In addition, a data-driven firm may be able to leverage a data-advantage from one market onto other related markets.

3.1 Preferential Treatment

Preferential treatment of a platform's products was one of the core issues of the Commission's Google Shopping case.³²⁶

By the late 2000s and early 2010s, in response to the challenge posed by vertical search, Google began to make copies of the most successful specialised search engines like Kayak, Foundem and Yelp (leading to Google Travel, Google Shopping and Google Local). Since the 'clones' were not as popular and successful with users as the original vertical search engines, Google introduced what was called 'universal search'. In a nutshell, universal search displayed links to Google's own vertical search services in a more advantageous manner than to its competitors, thereby effectively diverting traffic from Google's vertical competitors to its own versions of those companies.³²⁷ These practices led to antitrust scrutiny by both the FTC and the Commission, with the former closing its investigation in 2013³²⁸ and the latter recently imposing a €2.42 billion fine on Google.³²⁹

By having access to the largest pool of search query data, Google was able to identify industry segments into which it could expand to increase traffic and gather more data, thereby protecting its core markets (general search and search advertising). According to the Commission, Google engaged in a double practice consisting of systematically giving prominent placement to its own comparison shopping service, and demoting rival comparison shopping services in Google's search results. These practices resulted in a

³²⁵ Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (OUP 2016) 295–296.

³²⁶ European Commission, 'Press Release - Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service' (2017) <http://europa.eu/rapid/press-release_IP-17-1784_en.htm>.

³²⁷ Michael Luca and Tim Wu, 'Is Google Degrading Search? Consumer Harm from Universal Search' [2015] Working Paper, Harvard Business School.

³²⁸ FTC, 'Statement of the Federal Trade Commission Regarding Google's Search Practices - In the Matter of Google Inc. FTC File Number 111-0163' (2013) <https://www.ftc.gov/system/files/documents/public_statements/295971/130103googlesearchstmttoftcmm.pdf>.

³²⁹ European Commission (n 326).

significant advantage compared to Google's rivals, in breach of EU antitrust rules.³³⁰ It is worth noting that the Commission's decision in this case focused on comparison shopping services only. However, the Commission observed that it continues examining Google's treatment in its search results of other specialised Google search services, and that its decision of the Google Shopping case "is a precedent which establishes the framework for the assessment of the legality of this type of conduct."³³¹ Accordingly, the decision is likely to be very important for potential complainants active in other vertical search segments like Maps, Local, Travel and Finance.

Preferential treatment can also take place by means of contractual restrictions. Google controls the open-source system Android OS. The fact that such OS is open-source means that it can be freely downloaded, used and modified by anybody. Accordingly, "[a]ny device manufacturer that wishes to install "bare Android" can do so free of any Google apps whatsoever, and subject to minimal restrictions and few obligations to Google or anyone else."³³² However, a "bare Android" is of little or no use to regular users. The great majority of consumers will want a "normal" Android phone with Google Maps, Google search and other popular apps, along with the Google Play Store necessary to download any additional apps they may wish. To have Google Play and the most popular Google apps installed on an Android device, device manufacturers (OEMs) must sign a Mobile Application Distribution Agreement (MADA).

Under the MADA, OEMs must pre-install all Google applications designated by Google.³³³ The Commission has been able to confirm that Google has made the licensing of the Play Store on Android devices conditional on Google Search being pre-installed and set as the default search service, and relatedly, that Google requires the pre-installation of its mobile browser Chrome in return for licensing the Play Store or Google Search.³³⁴ The pre-installed apps must be prominent, with certain ads presented "at least on the panel immediately adjacent to the default Home Screen", and others "no more

³³⁰ *ibid.*

³³¹ *ibid.*

³³² Benjamin Edelman, 'Google, Mobile and Competition: The Current State of Play' (2017) Winter CPI Antitrust Chronicle 1.

³³³ MADA, section 2.1, quoted in Benjamin Edelman and Damien Geradin, 'Android and Competition Law: Exploring and Assessing Google's Practices in Mobile' (2016) Harvard Business School Working Paper 17-018 7.

³³⁴ European Commission (n 309).

than one level below the Phone Top.”³³⁵ Perhaps more importantly, Google demands that Google Search “be set as the default search provider for all Web search access points”, including “assist” and “voice search” functions.³³⁶ In addition, Google requires that its Network Location Provider service be preloaded and set as the default, tracking the geographic location of users at all times, and sending that location information to Google.³³⁷ Last but not least, Google requires that whenever a mobile app presents a webpage, said webpage must be rendered by a “Google WebView Component”, which is the core of a web browser.³³⁸

In view of the above, in April 2016, the Commission sent to Google a statement of objections, communicating its preliminary view that Google has abused its dominant position by imposing the contractual restrictions explained above. The Commission observed that, as a result of such restrictions, rivals search engines and mobile browsers are prevented from accessing the market, as a result of which Google’s dominant position in general search internet services has been reinforced and consolidated.³³⁹

3.2 Obstacles to the Effective Distribution of an App or Product

As seen above, Google has been accused to ‘falsify’ its search algorithm to increase the ranking of its own content and services within the organic search results (i.e. “promotion”). The flipside of this practice is the deliberate reduction of the ranking of specific services and content provided by competitors (i.e. “demotion”). In this connection, the Commission recently found:

“rival comparison shopping services appear in Google's search results on the basis of Google's generic search algorithms. Google has included a number of criteria in these algorithms, as a result of which rival comparison shopping services are demoted. Evidence shows that even the most highly ranked rival service appears on average only on page four of Google's search results, and others appear even further down. Google's own comparison shopping service is not subject to Google's generic search algorithms, including such demotions.”³⁴⁰

³³⁵ MADA, section 3.4.(2)-(3), quoted in Edelman and Geradin (n 333) 7.

³³⁶ MADA, section 3.4.(4), quoted in *ibid.*

³³⁷ MADA, section 3.8(c), quoted in *ibid* 7–8.

³³⁸ *ibid.*

³³⁹ European Commission (n 309).

³⁴⁰ European Commission (n 326).

The Commission established that the overwhelming majority of users click on the results that are higher up in the first page of search results. Indeed, the ten highest-ranking generic search results on page 1 together generally receive approximately 95% of all clicks on generic search results (with the top result receiving about 35% of all the clicks), while the first result on page 2 of Google's generic search results receives only about 1% of all clicks.³⁴¹ On account of Google's persistently high market shares in horizontal search across the EU (exceeding 90% in all EEA countries³⁴²) and the importance of being 'visible' in Google's search results to obtain traffic, demoted competitors are prevented from offering and distributing their services effectively. There is a long list of service providers that have complained of having been demoted in Google's SERP, including MapQuest, Photobucket, ESPN, Yahoo Images, Streetmap, Foundem³⁴³ and several other firms members of the Fairsearch³⁴⁴ and ICOMP coalitions.³⁴⁵

Alternatively, distribution of a product or app can be thwarted by an outright ban placed by a platform owner. In mobile ecosystems, platform owners (i.e. Google and Apple) and independent app developers cooperate with each other to extract personal data and track and target users with behavioural ads.³⁴⁶ Accordingly, any independent app that decides to 'go rouge' and devise a new business model capable of threatening the permanent flow of data may suffer retaliation from the platform owner.

That type of retaliation is one explanation for the conflict between Disconnect and Google. Disconnect, Inc. is a company that develops, markets and sells privacy and security software for mobile devices and computers. Disconnect has described its business model in the following fashion:

“When a consumer uses his Android mobile phone to read the Financial Times' story about the Commission's SO against Google, he unknowingly receives 17 “network requests” from sites and services other than the FT, all attempting to open invisible connections to his device. Seven of these requests – including three from Google itself – come from problematic sites

³⁴¹ *ibid.*

³⁴² *ibid.*

³⁴³ See generally Consumer Watchdog.org, 'Traffic Report: How Google Is Squeezing Out Competitors and Muscling into New Markets' (2010) A study by Inside Google.

³⁴⁴ Fair Search, 'FAIR SEARCH' <<http://fairsearch.org/>>.

³⁴⁵ 'Members' (ICOMP) <<http://i-comp.org/members/>>.

³⁴⁶ Ezrachi and Stucke (n 264) 167–169.

and services that invisibly track the user in order to make a comprehensive profile of his personal information as he uses applications and browses the web. This tracking not only violates personal privacy, but also leaves users vulnerable to malware and identity theft. Disconnect Inc.'s revolutionary technologies reveal and block this problematic tracking."³⁴⁷

Google banned Disconnect from the Play Store in 2014, claiming that it was interfering with other apps on the Play Store without authorization.³⁴⁸ Disconnect, conversely, claims that Google banned Disconnect because its technology interferes with Google's revenue stream from invisible tracking. After the ban, Disconnect could not be found on Google's Play Store any longer. This circumstance was reflected on its sales.³⁴⁹ The conflict ended up in a complaint filed with the Commission by Disconnect against Google,³⁵⁰ the decision of which remains pending.

3.3 Degradation of Functionality

Since web usage is increasingly shifting to smartphones and other mobile and connected devices, independent apps' profitability and success depend on their interoperability with the Apple and Android mobile ecosystems, which they do not control.³⁵¹ Indeed, as Stucke and Grunes report, independent apps and platforms like Twitter, LinkedIn, Yelp, Coupons.com and even Facebook have all acknowledged to their investors their dependence on such ecosystems.³⁵²

Firms can resort to the creation of obstacles for interoperability as a strategy to raise barriers to entry and foreclose competition. In *Intel*,³⁵³ the FTC found that Intel had introduced certain features to its compilers³⁵⁴ which effectively slowed the performance of software written using Intel's compilers on non-Intel x86 CPUs, such as Opteron, and

³⁴⁷ Disconnect, Inc., 'Complaint of Disconnect, Inc. Regarding Google's Infringement of Article 102 TFEU through Bundling into the Android Platform and the Related Exclusion of Competing Privacy and Security Technology Case COMP/40099' <<https://assets.documentcloud.org/documents/2109044/disconnect-google-antitrust-complaint.txt>>.

³⁴⁸ Kannon Yamada, 'Google Just Banned This Privacy Tool: How to Use Disconnect' (2015) *MakeUseOf* <<http://www.makeuseof.com/tag/google-just-banned-privacy-tool-use-disconnect/>>.

³⁴⁹ Disconnect, Inc. (n 347) para 13.

³⁵⁰ See Disconnect, Inc. (n 347).

³⁵¹ Ezrachi and Stucke (n 264) 155–156.

³⁵² Stucke and Grunes (n 325) 294.

³⁵³ *In the Matter of Intel Corporation* [2009] FTC Docket No. 9341.

³⁵⁴ A compiler is a tool used by software developers to write software. See FTC, 'Analysis of Proposed Consent Order to Aid Public Comment, In Re Intel Corporation, FTC Docket No. 9341' (2010) 5 <https://www.ftc.gov/sites/default/files/documents/cases/2010/08/100804intelanal_0.pdf>.

that, to the unknowing public, OEMs and software vendors, the slower performance of non-Intel-based computers when running some software applications was mistakenly attributed to the performance of non-Intel CPUs.³⁵⁵

Therefore, there is the possibility that the controllers of mobile ecosystems alter their mobile OS in a way that degrades the functionality of independent apps and online platforms, for example, by impairing their performance or making them run slower.³⁵⁶ If consumers become disenchanted with a given app's (for example, Trivago) degraded performance induced by a mobile OS owner, consumers may flock to competing apps owned by such mobile OS owner (for example, Google Trips).

3.4 Leverage of a Data-advantage from one Market onto Another Market

In France, the dominant gas provider used the personal data it gathered as a regulated monopoly to compete in a different market. After the gas market was opened to competition, and in particular since 2007, consumers could choose between GDF Suez's offers at regulated tariffs and market offers, which all gas suppliers including GDF Suez provided.³⁵⁷

The competitor Direct Energie filed a complaint with the Autorité de la Concurrence, arguing that GDF Suez was engaging in exclusionary practices. In particular, one practice was the use by GDF Suez of databases of costumers on regulated tariffs, which it had gathered as a regulated monopoly, to offer them gas and electricity deals. The use of such databases, according to the complainant, gave GDF Suez an incomparable advantage for keeping its dominant position in the gas market and acquiring new customers in the electricity market.³⁵⁸

The Autorité de la Concurrence held that the “advantages gained through this behaviour cannot be replicated under reasonable conditions, since no database exists that would allow competitors to precisely locate gas consumers and know their consumption level, in

³⁵⁵ *ibid.*

³⁵⁶ Stucke and Grunes (n 325) 295.

³⁵⁷ Autorité de la Concurrence, ‘Press Release 2014: Gas Market’ (2014) <http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=592&id_article=2420>.

³⁵⁸ *ibid.*

order to propose them offers that are better suited to their profile”, and that such behaviour “is incompatible with competition on the merits, because it is not the product of a specific innovation that GDF Suez may have introduced, but is merely inherited from its former status as monopolistic gas supplier.”³⁵⁹ GDF Suez was found to have abused its dominant position, and was ordered to grant its competitors access to some of the consumption data it collected as a provider of regulated offers.³⁶⁰

Similarly, the Belgian Competition Authority found that the National Lottery had abused its dominant position when launching its sports betting product Scoore!.³⁶¹ As in the case above, the National Lottery used contact details of persons registered in its IGS-database acquired in the context of its legal monopoly in order to enter the sports betting market with the launch of Scoore!. According to the Belgian Competition Authority, “the National Lottery did not acquire these contact details following competition on the merits, but in the context of its legal monopoly, [and such] data, having regard to their nature and size, could not be reproduced by competitors on the market at reasonable financial conditions and within a reasonable period of time.”³⁶²

Both cases concerned dominant undertakings using data acquired in the context of the legal monopolies they once enjoyed. The abuse is not as straightforward, consequently, when the data is gathered following competition on the merits, for example, as a result of innovative products. However, if a dominant undertaking has used other unlawful practices to attain, maintain or reinforce its dominant position, then the use of data acquired from its unlawfully attained or maintained dominant position is not competition on the merits,³⁶³ in which case there are good grounds to trigger 102 TFEU proceedings.

³⁵⁹ *ibid.*

³⁶⁰ Autorité de la Concurrence and Bundeskartellamt (n 315) 20.

³⁶¹ Belgian Competition Authority, ‘Press Release Nr 15-2015’ (2015) <<https://www.belgiancompetition.be/en/about-us/actualities/press-release-nr-15-2015>>.

³⁶² *ibid.*

³⁶³ Stucke and Grunes (n 325) 291. See Chapter 5 Section II.5.2.1.2.

IV. Conclusions

This Chapter agrees with the observation of the hands-off approach's proponents in the sense that market definition in online markets is problematic, that assessments of dominance and market power in general based on rigid market boundaries are likely to lead to mistaken conclusions, and that traditional competition analysis has an excessive focus on price which is inconsistent with the dynamics of competition in online markets. However, at the same time, this Chapter demonstrates that such observations are an unconvincing justification for low intervention in online markets. Competition law is sufficiently flexible to take into consideration the special features of digital industries and adapt accordingly. Markets can be readily defined, and assessments of dominance can be properly made without excessive fixation on price considerations, having due regard to quality, innovation and the interdependences between the different sides of the relevant MSP subject to scrutiny. In addition, some firms have the incentive and ability to engage in data-driven anticompetitive practices, and the Commission and other competition agencies around the world have already begun to investigate and punish them. This fact confirms the need for having vigilant and alert competition authorities in online industries, and further rests credibility to the hands-off approach.

At the same time, by defining product markets and assessing dominance in the most popular online industries, this Chapter demonstrates that platforms follow very different business models, and consequently derive their profits, and market power, from different sources and factors. For example, direct network effects are of paramount significance for social networks, but play little to no role in markets for search engines and online marketplaces. Similarly, search- and social network-related services cannot be provided without data, whereas the sale intermediation services provided by online marketplaces are not dependent on data to the same extent. It follows that (i) dominance and the competitive effects of the practices in which the platforms belonging to those markets engage must be assessed on a case-by-case basis, and (ii) any "one-size-fits-all" regulation applicable to 'online platforms' is likely to be incapable of accounting for online platforms' different business models and the competitive implications derived therefrom, for which reason the passing of such regulation should be discarded.

CHAPTER 4. Interrelated Competition and Online Privacy

Concerns: Approaches to Address Privacy Issues in Competition Analysis

Introduction

The problems arising from data-driven competition in online markets are not confined to competition law only. On the flipside, the collection and processing of consumer data impinge upon consumers' privacy. As Commissioner Vestager explains:

“Very few people realise that, if you tick the box, your information can be exchanged with others [...] Actually, you are paying a price [...] You give away something that was valuable. I think that point is underestimated as a factor as to how competition works.

The more data you can collect, the more you know, the better the product you can provide, but also the more powerful will you be towards others [...] It isn't solely a competition issue [...] It's very important for us to be able to say what is competition-related and what is an issue of privacy, [and] how you can be as secure on the net as you can be in the physical world.”¹

Competition in online markets creates a natural tension between undertakings' incentives and consumers' online privacy. This tension leads to interrelated concerns. On the one hand, competition creates the incentive for undertakings to gather and process as much data as possible, and this incentive has the potential to derive into heightened barriers to entry² and the ability of dominant undertakings to engage in data-driven anticompetitive conduct;³ on the other hand, the 'data-race' in which online firms participate to gain a data advantage results in widespread surveillance and the violation of individuals' data protection rights.

¹ Interview with Margrethe Vestager, 'Margrethe Vestager, Lewis Crofts and Robert McLeod in Conversation with Europe's New Competition Commissioner' (2015) <<http://mlexmarketinsight.com/wp-content/uploads/2015/01/MLex-Interview-Vestager-22-01-151.pdf>>.

² See Chapter 2 Section II.5.2.3.

³ See Chapter 3 Section III.

The interrelated nature of competition and data protection issues in online markets has prompted some laudable efforts to tackle them in a joint fashion. Theories have been put forward to define markets for data, to take into account data protection considerations under the consumer welfare standard, and to consider privacy protection as a non-price parameter of competition. This Chapter discusses these theories and reaches a conclusion on whether their implementation is sound competition policy. It is submitted that each of these approaches faces some type of obstacle for its successful implementation. Firstly, the ‘market for data’ approach is too fictional, as it does not meet the most basic requirement for a market to exist, which is the existence of actual market transactions between suppliers and customers of a product. Secondly, the approach that makes data protection considerations cognisable under the consumer welfare standard is just another expression of the long-standing debate on whether or not competition law assessments should include non-competition considerations in its substantive analysis, for which reason its novelty is rather illusory, and its impact on competition enforcement likely to be zero: competition assessments already allow for the consideration of non-competition issues (such as data protection) to exclude the application of competition law, but conduct that is not objectionable from a competition policy perspective cannot be punished in competition proceedings on non-competition grounds. Thirdly, the ‘privacy as a non-price parameter of competition’ approach is theoretically correct: some consumers in some online markets do indeed value the privacy protection offered by the services they use, and adopt their consumption decisions accordingly. However, privacy protection is not a meaningful parameter of competition, because its existence as such is predicated on assumptions which are not met in reality.

Section I describes five stages of privacy harms that are commonplace in online markets. These privacy harms arise from the manner in which online firms compete. Insofar as competition remains data-driven and with no data protection granularities being offered, these privacy harms are bound to be augmented. Section II explains the most intellectually convincing attempts to bring data protection issues to the core of competition analysis, and explains why their implementation is not advised or unlikely to be successful. Section III presents some conclusions.

I. Privacy Harms arising from Data-Driven Competition

In addition to the competition concerns analysed in Chapters 2 and 3, the collection and processing of consumer data by online firms also give rise to online privacy concerns. In particular, problems arise because much of the data collected and processed by online firms is ‘personal data’; i.e. information that relates to an identified or identifiable individual. In the EU, the protection of personal data is a fundamental right enshrined in the Charter, and its processing is subject to compliance with specific rules.⁴ Competition in online markets creates tension between undertakings’ incentives and individuals’ right to data protection. Insofar as the main way to compete online is by gathering personal data and processing it for the provision of free services and targeted advertising, there will be increased pressure to gather more and more data. This increased pressure, in turn, will compound the privacy harms that are commonplace online.

Privacy harms arising from data-driven competition are oftentimes downgraded and understated. For example, Thierer has observed: “[p]ractically every new information technology launched today is initially labeled “creepy” and creepiness is often the primary (or only) alleged harm that is cited as the basis of much online privacy regulation”.⁵ It is argued, to the contrary, that privacy harms go way beyond creepiness. They include the reduction of individuals’ private space and lack of control over personal data, increased potential of data theft, the narrowing of individuals’ choices, amplified information asymmetries and enhanced discrimination:

1. Widespread and comprehensive data collection is increasingly diminishing the private space of individuals.

The business model of online platforms is based on ‘tracking’ people, their relationships and their behaviour. In other words, surveillance.⁶ This surveillance constitutes an invasion into the private space of consumers, especially when consumers are not aware of

⁴ See Chapter 5 Section I.2.

⁵ Adam Thierer, ‘The Pursuit of Privacy in a World Where Information Control Is Failing’ (2013) 36 Harv. JL & Pub. Pol’y 409, 417–418.

⁶ Giovanni Buttarelli, ‘Competition Rebooted: Enforcement and Personal Data in Digital Markets’ (2015) </data-protection/our-work/publications/speeches/competition-rebooted-enforcement-and-personal-data_en>.

the ‘tracking’ that is taking place,⁷ and in particular where people do not have any choice in whether they are watched and tracked online.⁸

The tracking of users and accumulation of their data has an incremental adverse effect on privacy. Entirely different conclusions can be drawn from search queries consisting of the words ‘paris’, ‘hilton’ and ‘louvre’ as opposed to ‘paris’, ‘hilton’ and ‘nicky’, but if more and more search queries are added to the analysis, the information-revealing properties of data can be easily appreciated.⁹ More data allows for the drawing of remarkably precise inferences. By way of example, in 2006 AOL made public over 20 million search queries conducted by thousands of subscribers over a three-month period. After replacing the subscribers’ names or user IDs with identification numbers to protect the searchers’ anonymity, AOL posted the data for research purposes. The data connected the ‘anonymised’ AOL member with his or her search queries, the number of websites identified by AOL’s search engine as responsive to the search queries, and the resulting website the individual chose to visit. Based on this information, the New York Times was able to identify one subscriber named Thelma Arnold:

“search by search, click by click, the identity of AOL user No. 4417749 became easier to discern... It did not take much investigation to follow that data trail to Thelma Arnold, a 62-year-old widow who lives in Lilburn, Ga., frequently researches her friends’ medical ailments and loves her three dogs.”¹⁰

In a similar vein, a 2009 study showed how it is possible to predict individuals’ Social Security numbers (which is highly sensitive information in the US) from information obtained from publicly available Internet sources (birth information from Facebook profiles and data from a database of deceased individuals’ Social Security numbers).¹¹

⁷ [T]he invisibility of the practice to consumers raises privacy concerns, as does the risk that data collected for behavioral advertising – including sensitive data about children, health or finances – could be misused." FTC, ‘Federal Trade Commission Staff Report: Self-Regulatory Principles For Online Behavioral Advertising: Tracking, Targeting, and Technology’ (2009) 9 <<https://www.ftc.gov/reports/federal-trade-commission-staff-report-self-regulatory-principles-online-behavioral>>.

⁸ *ibid.*

⁹ Omer Tene and Jules Polonetsky, ‘Big Data for All: Privacy and User Control in the Age of Analytics’ (2013) 11 *Northwestern Journal of Technology and Intellectual Property* 239, 251.

¹⁰ Michael Barbaro and Tom Zeller, ‘A Face Is Exposed for AOL Searcher No. 4417749’ (2006) *The New York Times* <http://www.nytimes.com/2006/08/09/technology/09aol.html?pagewanted=1&_r=1>.

¹¹ Alessandro Acquisti and Ralph Gross, ‘Predicting Social Security Numbers from Public Data’ (2009) 106 *Proceedings of the National Academy of Sciences of the United States of America* 10975.

Moreover, once data like search queries or a cookie number are linked to an identified individual, it is almost impossible to disentangle them. This circumstance compounds this incremental adverse effect on privacy to an extent such that an individual's private life can be irreversibly exposed. To make things worse, after its generation, users have virtually no control over their personal data, let alone of the information obtained from data mining. In addition, as a consequence of digitalisation, data is easier to replicate and share after its production.¹² These circumstances serve as fuel for the general perception shared by consumers of lack of control over their personal data.¹³

2. Storage of big data increases the potential of data theft and the harmful consequences of data security breaches.

The more data is collected and stored, the higher the risks of data breaches. According to Kroll consulting, reported thefts of electronic data exceeded reported thefts of physical property from global companies for the first time in the year 2010.¹⁴

In addition, large-scale data breaches are becoming more frequent: for example, a hacking attack in 2008-09 that compromised Heartland Payment Systems Inc. (a US-based card processing company) and other companies affected over 130 million credit and debit card numbers,¹⁵ and a data breach of Sony's PlayStation Network and Sony Online Entertainment resulted in exposed data for 24.6 million users, including their name, address, email address, birthdate phone number and login name.¹⁶

¹² Serge Gutwirth, *Privacy and the Information Age* (Bepress: Lanham/Boulder/New York/Oxford 2002) 61.

¹³ 'A feeling of a loss of control appears to be a core theme, perhaps helping to explain consumers' specific fears about how their data might be used.' See CMA, 'The Commercial Use of Consumer Data – Report on the CMA's Call for Information' (2015) 116.

¹⁴ Kroll Consultancy, 'Global Fraud Report, Economist Intelligence Unit Survey Results Annual Edition 2010/2011' (2011) <http://fr.kroll.com/media/pdfs/FraudReport_English-US_Oct10.pdf>.

¹⁵ Kim Zetter, 'TJX Hacker Charged With Heartland, Hannaford Breaches' (2009) *Wired* <<https://www.wired.com/2009/08/tjx-hacker-charged-with-heartland>>.

¹⁶ Reuters Staff, 'UPDATE 2-Sony Breach Could Cost Card Lenders \$300 Mln' (2011) *Reuters* <<http://uk.reuters.com/article/sony-creditcards-cost-idUKN2826485220110428>>; Dan Goodin, 'Sony Says Data for 25 Million More Customers Stolen' (2011) *The Register* <https://www.theregister.co.uk/2011/05/03/sony_hack_exposes_more_customers/>.

3. Big Analytics leads to inferences and automated decision-making which narrow individuals' choices.

Innovative data mining techniques produce more information about users without their intervention. Inferences and automated processes based on algorithms and AI take control over the decisions about an individual's life, leading to concerns about narrowing of choice. Data-based personalisation of online services has resulted in algorithms determining what content or advertisements a user will see when going online. For example, when Facebook modified its News Feed in 2011, several users complained about having 'disappeared' from the website: the platform's new default setting resulted in users only seeing news and updates from the friends with whom they 'interact most'.¹⁷ In this connection, Eli Pariser has contended that the "invisible algorithmic editing of the Web' is moving us very quickly toward a world in which the Internet is showing us what it thinks we want to see but not necessarily what we need to see", giving as an example the different Google's search results that two of his friends got when they both searched for 'Egypt' during the revolutionary activity that took place in such country in February 2011: based on their respective search history, one person obtained news stories, whilst the other obtained travel advice.¹⁸

4. Increasingly accurate accumulated knowledge derived from data collection and processing creates information asymmetries.

Online services are provided under barter-like transactions, where users exchange their personal data for free access.¹⁹ However, those transactions are consummated in inefficient markets where information asymmetries, further compounded by big analytics, are rife.

There is little to no awareness of how and why consumer information is used, stored and transferred online.²⁰ Worse still, even when consumers are aware of their disclosure of personal information to use online services, they hardly grasp the level to which an online

¹⁷ Kashmir Hill, 'Resisting The Algorithms' (2011) *Forbes*

<<https://www.forbes.com/sites/kashmirhill/2011/05/05/resisting-the-algorithms/>>.

¹⁸ *ibid*; See generally Eli Pariser, *The Filter Bubble: What The Internet Is Hiding From You* (Penguin 2012).

¹⁹ John M Newman, 'Antitrust in Zero-Price Markets: Foundations' (2015) 164 U. Pa. L. Rev. 149.

²⁰ Ofcom, 'Being Online: An Investigation of People's Habits and Attitudes - Ofcom' (2013)

<<https://www.ofcom.org.uk/research-and-data/internet-and-on-demand-research/internet-use-and-attitudes/being-online>>. See below Section II.2.3, discussion on Condition 1.

platform may know his personal interests and preferences. Vertically integrated platforms can combine data gathered from all of the services they provide, or alternatively, data troves can be pooled together as a result of mergers or acquisitions of Internet firms, or combined without the direct knowledge and interaction of consumers (for instance, by data brokers), leading to new valuable insights about them. As a result:

“Transacting with a big data platform is like a game of poker where one of the players has his hand open and the other keeps his cards close. The online company knows the preferences of the transacting individual inside and out, perhaps better than the individual knows him or herself. It can therefore usurp the entire value surplus available in the transaction by pricing goods or services as close as possible to the individual’s reservation price.”²¹

5. Data-driven decision-making can lead to discrimination and cause financial and other harms to individuals.

According to a report prepared for the White House, powerful algorithms have the potential of encoding discrimination in automated decisions.²² Big analytics enable the emergence of correlations that allow individuals to be ‘scored’ and slotted into categories or segments of consumers of similar characteristics such as ethnicity, income level and education (for example, ‘Modest Wages’, ‘Rural Everlasting’, or ‘Resilient Renters’).²³ These scores are generated mostly for marketing purposes, but they can be also used in ways that influence the opportunities of individuals, for example, to find housing.²⁴ In this regard, it has been reported that data are being surreptitiously used for ‘redlining’.²⁵ It has also been reported that credit checks and other scouring of online background information are being combined into algorithmic screening categories that may exclude individuals from being considered for jobs or loan applications.²⁶ In addition, the combination of a home address and other data can “create an almost perfect proxy for race”,²⁷ which may result in situations of discrimination against individuals and groups. For example, investigating personalised ads which are rendered by Google’s AdSense when a Google search for a person’s name is entered, Sweeney found statistically

²¹ Tene and Polonetsky (n 9) 255.

²² Executive Office of the President, ‘Big Data: Seizing Opportunities, Preserving Values’ (2014) 45 <http://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf>.

²³ FTC, ‘Data Brokers: A Call for Transparency and Accountability’ (2014) 19–20.

²⁴ Executive Office of the President (n 22) 46.

²⁵ Redlining is the act of denying or increasing the cost of services such as loans, insurance or healthcare to residents of neighbourhood composed mostly of minorities. Tene and Polonetsky (n 9) 254.

²⁶ Nathan Newman, ‘Data Justice: Taking on Big Data as an Economic Justice Issue’ (2015) 3.

²⁷ *ibid* 6.

significant discrimination in ad delivery based on searches of 2184 racially associated personal names across two websites: black-identifying names generated ads suggestive of an arrest in 81 to 86 per cent of name searches on one website and 92 to 95 per cent on the other, whilst white-identifying names generated ads suggestive of an arrest in 23 to 29 per cent on one site and 0 to 60 per cent on the other.²⁸

Therefore, contrary to statements that “there is little or no evidence of any harm or threatened harm” to informational privacy,²⁹ privacy harms arising from data-driven competition are a real and concrete issue that is adversely affecting “the core values and principles which privacy protection seeks to promote, [which phenomena] may have a broader impact on society as a whole.”³⁰

II. Approaches that bring Privacy Considerations into the Core of Competition Analysis

1. Approaches

Since competition in digital markets raises interrelated competition and privacy concerns, some theories have been articulated to address privacy issues in competition analyses, mostly in the context of mergers and unilateral conduct. The list below is not exhaustive;³¹ rather, it contains the most intellectually sound approaches that could hypothetically persuade competition authorities and judges to include privacy considerations in competition assessments.

²⁸ Latanya Sweeney, ‘Discrimination in Online Ad Delivery’ (2013) SSRN paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2208240>.

²⁹ Lucas Bergkamp, ‘EU Data Protection Policy: The Privacy Fallacy: Adverse Effects of Europe’s Data Protection Policy in an Information-Driven Economy’ (2002) 18 Computer Law & Security Review 31, 32.

³⁰ OECD, ‘Data-Driven Innovation for Growth and Well-Being: Interim Synthesis Report’ (2014) 57.

³¹ For example, other efforts have been made on the basis of privacy being a fundamental human right and undue concentration of economic power. See generally Geoffrey A Manne and Ben Sperry, ‘The Law and Economics of Data and Privacy in Antitrust Analysis’, 2014 TPRC Conference Paper (2014).

1.1 The ‘Market for Data’ Approach

This approach was explained in Chapter 3 Section I.4.3. Let us recall that its proponents advance the definition of ‘markets for data’, in addition to the markets for the services enabled and fuelled by such data.

1.2 The ‘Integrationist’ Approach

The EDPS recently argued that “privacy and the protection of personal data should be considered not as peripheral concerns but rather as central factors in the appraisal of companies’ activities and their impact on competitiveness, market efficiency and consumer welfare”,³² given that “consumers are also data subjects, whose welfare may be at risk where freedom of choice and control over one’s personal information is restricted by a dominant undertaking”,³³ for which reason “it may be necessary to develop a concept of consumer harm, particularly through violation of rights to data protection, for competition enforcement in digital sectors of the economy”.³⁴

Peter Swire puts forward a similar argument.³⁵ He contends that “privacy harms can reduce consumer welfare, which is a principal goal of modern antitrust analysis”,³⁶ for which reason “[i]t would be illogical to count the harms to consumers from higher prices while excluding the harms from privacy invasions – both sorts of harms reduce consumer surplus and consumer welfare in the relevant market”.³⁷ He refers to research showing that many consumers have significant concerns about privacy, and argues that “[f]or these individuals, their consumer preferences are subject to harm if standard online surfing shifts to a less privacy-protective structure due to a merger or dominant firm behavior”.³⁸

³² EDPS, ‘Preliminary Opinion of the European Data Protection Supervisor. Privacy and Competitiveness in the Age of Big Data: The Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy’ (2014) 26.

³³ *ibid* 31.

³⁴ *ibid* 32.

³⁵ Peter Swire, ‘Protecting Consumers: Privacy Matters in Antitrust Analysis’ (2007) *Center for American Progress* <<https://www.americanprogress.org/issues/economy/news/2007/10/19/3564/protecting-consumers-privacy-matters-in-antitrust-analysis/>>.

³⁶ *ibid*.

³⁷ *ibid*.

³⁸ *ibid*.

1.3 ‘Privacy as Non-price Parameter of Competition’ Approach

It is acknowledged that companies compete not only on the basis of price,³⁹ but also on other dimensions such as quality, choice and innovation. Given that in certain markets⁴⁰ companies to a greater or lesser extent compete on the basis of the level of data protection they offer to their users, privacy can indeed amount to a non-price parameter of competition. Since reductions in non-price competition as a result of mergers or conduct are addressed and punished by competition law, reductions in privacy due to mergers or conduct should be also cognizable harms in competition assessments. As a matter of fact, the FTC expressly acknowledged privacy as a non-price parameter competition in its Google/DoubleClick decision.⁴¹

Swire has put forward a similar argument. For him, privacy harms can lead to a reduction in the quality of a good or service, which is a standard category of harm that results from market power.⁴² Commenting on the Google/DoubleClick merger, Swire asserted that the merger would entail the combination of Google’s ‘deep’ information about an individual’s actions, such as detailed information about search terms, with DoubleClick’s ‘broad’ information about an individual’s actions, such as the surfing behaviour of an individual after leaving Google, and that this combination of ‘deep’ and ‘broad’ information “may be a significant reduction in the quality of the search product” for the “many millions of individuals with high privacy preferences.”⁴³ Therefore, if reduction of product quality is an effect actionable under competition law and consumers regard privacy as an aspect of product quality, reductions of privacy protection should be taken as consumer harm in competition assessments.

³⁹ See for example European Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings [2009] OJ C 45/7, para 11: ‘In this Communication, the expression “increase prices” includes the power to maintain prices above the competitive level and is used as shorthand for the various ways in which the parameters of competition — such as prices, output, innovation, the variety or quality of goods or services — can be influenced to the advantage of the dominant undertaking and to the detriment of consumers.’.

⁴⁰ See for example Case COMP/M7217, *Facebook/Whats.App* (2014) [125] where the Commission notes some degree of competition on the basis of data protection in the consumer communications apps market.

⁴¹ [W]e investigated the possibility that this transaction could adversely affect non-price attributes of competition, such as consumer privacy”. FTC, *Google/DoubleClick* [2008] FTC File No. 071-0170 6.

⁴² Swire (n 35).

⁴³ *ibid.*

Lande offers another variant of Swire’s approach, focusing on consumer choice rather than quality.⁴⁴ Commenting on the Microsoft/Yahoo! Merger, he asserted: “[a]ntitrust is actually about consumer choice, and price is only one type of choice. The ultimate purpose of the antitrust laws is to help ensure that the free market will bring to consumers everything they want from competition. This starts with competitive prices, of course, but consumers also want an optimal level of variety, innovation, quality, and other forms of nonprice competition. Including privacy protection.”⁴⁵ Consequently, “a merger which significantly reduces the intensity of competition in any information-based market must be examined for its potential effects on all dimensions of competition – including privacy – rather than just for its price effects.”⁴⁶

2. Problems with these Approaches

2.1 The ‘Market for Data’ Approach

As explained in Chapter 3 Section I.4.3, this approach suffers from an insurmountable conceptual flaw. Chapter 2 explains that data is an input to production rather than a standalone product, for which reason, save for a few exceptions,⁴⁷ online platforms do not market data. Consequently, any of these ‘markets for data’ will be essentially fictional, as there are no actual market transactions between suppliers and customers of data.

2.2 The ‘Integrationist’ Approach

The proponents of this approach suggest that the notion of consumer welfare should incorporate data protection considerations, thereby implying a departure from a purely economic analysis of consumer welfare. Notably, this seems to be another expression of the long-standing debate of whether or not competition law assessments should include

⁴⁴ Robert Lande, ‘The Microsoft-Yahoo Merger: Yes, Privacy Is an Antitrust Concern’ [2008] 714 FTC: Watch 9 1.

⁴⁵ Lande (n 44).

⁴⁶ *ibid.*

⁴⁷ See Chapter 2 Section I.3.3.2.3.

non-competition considerations in its substantive analysis,⁴⁸ for which reason its novelty is rather illusory. As such, it does little to change the current state of affairs with regard to the interaction between competition law and data protection.

The Commission's official stance in this regard is against balancing competition with other public policy (non-competition) interests, such as data protection, insofar as such public policy interests cannot be taken into consideration in competition assessments.⁴⁹ In practice, the Commission has balanced public interest considerations such as environmental policy,⁵⁰ employment policy⁵¹ and the protection of public health⁵² in the enforcement of Article 101(3) TFEU. Similarly, the Commission examines claims put forward by dominant undertakings in the sense that their allegedly exclusionary conduct is objectively necessary, for example, for health or safety reasons related to the nature of the product in question.⁵³ For instance, in *Port of Genoa*,⁵⁴ the Commission confirmed that environmental issues ("the protection of the sea bed") can be taken into consideration as objective justification, and similarly, in *GVG/FS*,⁵⁵ the Commission confirmed that public safety concerns may in theory be considered as an objective justification. Lastly, the EU Merger Regulation imposes upon the Commission the obligation to conduct its competition assessments within the general framework of the achievement of the fundamental objectives of the EU,⁵⁶ for which reason the Commission is allowed to take into consideration public policy concerns in its appraisal processes.⁵⁷

However, public policy interests are almost invariably taken into consideration in competition analysis only to exclude the application of competition law.⁵⁸ In Article 101

⁴⁸ On this topic see generally Christopher Townley, *Article 81 EC and Public Policy* (1st edition, Bloomsbury Publishing plc 2009); Constanze Semmelmann, *Social Policy Goals in the Interpretation of Article 81 EC* (Nomos Verlagsgesellschaft 2008).

⁴⁹ European Commission, Guidelines on the Application of Article [101(3) TFEU] [2004] OJ C 101/97, para 42: 'Goals pursued by other Treaty provisions can be taken into account to the extent that they can be subsumed under the four conditions of Article [101(3)].'

⁵⁰ Case No 94/986/EC, *Philips/Osram* (1998) [27].

⁵¹ Case No 93/49/EEC, *Ford/Volkswagen* (1992) [23].

⁵² Case No 94/770/EC, *Pasteur-Mérieux/Merck* (1994) [89 and 108].

⁵³ European Commission (n 39) paras 28–29.

⁵⁴ Case No 97/745/EF, *Port of Genoa* (1997) [21].

⁵⁵ Case No COMP/37685, *GVG/FS* (2004) [136].

⁵⁶ Council Regulation (EC) No. 139/2004 on the Control of Concentrations between Undertakings (the EU Merger Regulation) [2004] OJ L24/1, recital 23.

⁵⁷ Case T-12/93, *Comité Central d'Entreprise de la Société Anonyme Vittel v Commission* [1995] ECR II-1247 [38–39].

⁵⁸ The exception can be found in Article 21(4) EU Merger Regulation, which allows Member States to take appropriate measures to protect (public policy) legitimate interests such as public security, plurality of the media and prudential rules. EU Merger Regulation (n 56).

TFEU cases, public policy interests can outweigh the finding of restriction of competition, as a result of which the agreement, originally perceived as anticompetitive, is allowed.⁵⁹ Something similar occurs in Article 102 TFEU cases. A *prima facie* abuse can be exempted from the prohibition contained in such provision if objectively justified or if its anticompetitive effects are outweighed by efficiencies.⁶⁰ In merger control cases, it is examined whether or not a merger would significantly impede effective competition, in particular as a result of the creation or strengthening of a dominant position, and if that is the case, public policy considerations may be raised to allow the otherwise anticompetitive merger.⁶¹ If public policy concerns do not outweigh the anticompetitive effects of the relevant agreement, conduct or merger which triggered the competition proceedings, then such agreement, conduct or merger will be condemned in view of its anticompetitive effects.

For instance, a group of browser providers or a dominant browser provider may implement a ‘Privacy-compliant Ads’ policy under which the group of browsers or the dominant browser blocks any ads and websites that do not meet the terms of such policy (for example, ads and websites that resort to intensive behavioural tracking).⁶² The group of browsers can raise an ancillary defence under Article 101(3), putting forward the argument that the restriction of competition is necessary for the protection of the fundamental right to data protection of individuals, and similarly, the dominant browser provider can contend that its conduct is objectively justified on the same ground.

Conversely, it is very difficult to imagine how an agreement, conduct or merger that is only objectionable on non-competition grounds can be punished after a competition investigation. Merging competition and data protection assessments (or including data protection considerations in the consumer welfare standard) could lead to a scenario where in competition proceedings procompetitive conduct is punished on data protection

⁵⁹ See for example Joined cases T-528/93, 542/93 543/93 and 546/93, *Métropole Télévision v Commission* [1996] ECR II-649 [118].

⁶⁰ However, EU Courts have never condoned abusive conduct on the basis of public interest objectives.

⁶¹ For example, in connection with the *Lloyds/HBOs* merger in the UK, the OFT concluded that the merger would result in significant lessening of competition in relation to personal current accounts, banking services for SME and mortgages. However, the merger was not blocked, as it was decided that the competition concerns identified by the OFT were outweighed by significant benefits to the public interest in ensuring the stability of the financial system. See OECD, ‘Public Interest Considerations in Merger Control’ (2016), 12.

⁶² This is similar to Adblock Plus’ Acceptable Ads policy. See Adblock, ‘Acceptable Ads’ (2017) <<https://acceptableads.com/>>.

grounds, in the absence of competition issues. It is submitted that this outcome is unacceptable, as the EU “competition rules have as their objective the protection of competition on the market and cannot be detached from this objective”.⁶³ Incorporating the assessment of public policy considerations such as data protection in competition appraisals and admitting the possibility to condemn business practices on data protection (or other non-competition) grounds would inevitably lead to legal uncertainty, inconsistency, subjectivity and unpredictability in the enforcement of competition law.

On a more fundamental level, competition and data protection pull in opposite directions. On the one hand, competition is conceived as the best means available to ensure the efficient allocation of resources and increase consumer welfare in the form of low prices, better quality products, wider choice and more innovation.⁶⁴ As noted in Chapter 2, the advent of big data has fuelled innovation in online markets, leading to the emergence of new products, services and business models, thereby increasing consumer welfare. As a result, data-driven products and services, which are the result of big data technological advances, should be applauded from a competition policy perspective (provided that they operate within the boundaries of competition on the merits). On the other hand, to the extent that data is valuable and confers a competitive advantage over competitors, more competition will inevitably increase online undertakings’ appetite for data, leading to the collection and processing of *more* data; however, as seen in Section 1 above, more data processing leads to enhanced profiling and more insights about consumers’ preferences and interests, increased tracking, and consequently, less online privacy. The tension between competition policy and data protection⁶⁵ here can be easily appreciated: competition policy, which seeks *inter alia* to enhance consumer welfare, should welcome and encourage the disruptive innovation brought about by data-driven competition taking place in online markets; yet, more competition will unavoidably lead to more data collection and privacy-intrusive practices. The inclusion of data protection considerations in the consumer welfare standard would do no more than making this tension apparent.

⁶³ European Commission (n 49) para 43.

⁶⁴ European Commission (n 39) para 5.

⁶⁵ This tension has been noted by the American Chamber of Commerce to the European Union, which considered the GDPR as an impediment to innovation and economic progress. See American Chamber of Commerce to the European Union, ‘AmCham EU Position on the General Data Protection Regulation’ (2012) 3, 6 and 11 <https://dataskydd.net/sites/default/files/wp-content/uploads/2013/01/AmCham-EU_Position-Paper-on-Data-Protection-20120711.pdf>.

Perhaps based on the considerations above, both the Commission and the CJEU have rejected a concurrent application of competition and data protection assessment in competition cases where this approach has been suggested. In *Asnef-Equifax*, the CJEU held:

“[...] since [...] any possible issues relating to the sensitivity of personal data are not, as such, a matter for competition law, they may be resolved on the basis of the relevant provisions governing data protection.”⁶⁶

Similarly, the Commission expressed the same position in *Google/DoubleClick*,⁶⁷ and more recently in *Facebook/WhatsApp*:

“[a]ny privacy-related concerns flowing from the increased concentration of data within the control of Facebook as a result of the Transaction do not fall within the scope of the EU competition law rules but within the scope of the EU data protection rules.”⁶⁸

2.3 ‘Privacy as Non-price Parameter of Competition’ Approach

This is the most convincing and sound attempt to make privacy cognisable under competition law, because it does not endeavour to collapse two different analytical frameworks of two independent branches of law, but instead it attempts to translate privacy into terms with which competition law is familiar.

This approach is theoretically correct. As the Commission and the FTC have acknowledged,⁶⁹ in some markets such as the electronic communications services market, some consumers choose their service providers based on, *inter alia*, the degree of privacy protection they offer (whether considered as a non-price parameter competition in itself or as a manifestation of quality). However, a reality check shows that, in spite of the growing concerns of consumers about the protection of their personal data,⁷⁰ privacy has not emerged as a significant parameter of competition,⁷¹ and when market participants

⁶⁶ Case C-238/05, *Asnef-Equifax, Servicios de Información sobre Solvencia y Crédito, SL v Asociación de Usuarios de Servicios Bancarios (Asnabanc)* [2006] ECR I-11125 [63].

⁶⁷ Case COMP/M4731, *Google/DoubleClick* (2008) [368].

⁶⁸ *Facebook/WhatsApp* (n 40) [164].

⁶⁹ See above footnotes 40 and 41.

⁷⁰ See below text accompanying footnotes 76 to 82.

⁷¹ Autorité de la Concurrence and Bundeskartellamt, ‘Competition Law and Data’ (2016) 25.

choose to differentiate themselves by the data protection levels they offer, they are destined to remain niche participants.⁷²

The processing of personal data requires a legal basis. The most common legal bases invoked by data controllers are user consent and necessity for the performance of a contract to which the data subject is a party.⁷³ Both legal bases presuppose some type of ‘privacy contract’⁷⁴ into which consumers enter to enjoy seemingly free online services. In this context, the privacy as a non-price parameter of competition argument is conceived within a neoclassical economic framework, in which consumers are able to choose the optimal amount of privacy they want under the privacy contracts they enter into. Pasquale describes this conception as follows:

“Companies compete to offer more or less privacy to users. If there are many companies in a given field, they will probably offer many different levels of privacy to consumers. If consumers choose to use services from companies that offer little to no privacy protection, that reveals a preference to spend little to nothing on (or looking for) privacy.”⁷⁵

This model can be illustrated with the following example: a social networking site can choose between two privacy policies, A and B. Policy A entitles the social network to re-use the information it obtains from users, whereas policy B is more restrictive in this regard. Obviously, the social network has the incentive to choose policy A, as it can derive more profits therefrom as compared to policy B, *unless* consumer demand is affected by the expected privacy harm. If consumer demand shifts as a result of the expected privacy harm, a social network having policy A is less attractive than one having policy B.

The theoretical construction above seems efficient and comforting, but requires several assumptions to work out in practice:

- 1) Consumers ought to make thorough reflections on whether or not to choose an online service based on the terms of the privacy policy they carefully read.

⁷² For example, the search engine DuckDuckGo.

⁷³ DPD, Article 7(a) and (b); GDPR, Article 6 (1) (a) and (b).

⁷⁴ These are privacy policies, notices or terms and conditions of the different websites and services which process personal data.

⁷⁵ Frank A Pasquale, ‘Privacy, Antitrust, and Power’ (2013) 20 George Mason Law Review 1009, 1009.

- 2) The undertaking's choice of privacy policy must be effectively implemented, which requires that users can readily verify any departure from it;
- 3) There must be effective punishment in case any of such departures take place; and
- 4) There must be viable competitors offering different degrees of data protection, from which different degrees of privacy harm can be expected.

Regrettably, none of these conditions are met in reality.

Condition 1: For this condition to be fulfilled it is necessary that consumers effectively (i) care about their data being collected by undertakings; and (ii) read and understand the privacy contracts they enter into.

There is copious survey evidence showing that online privacy is a core concern of users. For example, BEUC, a Europe-wide consumer protection organisation, has noted that 70% of EU consumers are worried about how their data is being collected and processed.⁷⁶ Similarly, a survey conducted by the European Commission found that disclosing personal data is a big issue for 63% of respondents at EU level, and for 67% of UK respondents.⁷⁷ Relatedly, a survey prepared by the ICO found that the protection of personal data is a top three concern amongst social issues for 21% of respondents.⁷⁸ In the same vein, a study commissioned by the Direct Market Association found that 31% of the population is unwilling to provide personal information, whilst 53% decide to provide personal information depending on the expected benefits.⁷⁹ In the US, in a study on adults' perceptions about online advertising, 64% of the respondents agreed to the statement "someone keeping track of my activities online is invasive."⁸⁰ Last but not least, a study commissioned by TRUSTe concluded:

“[...]consumer online privacy concerns remain extremely high with 92% of US internet users worrying about their privacy compared with 89% in January 2013. The high level of concern is further evidenced by 47% saying they were

⁷⁶ BEUC, 'Supplementary Written Evidence (OPL0068) – Online Platforms and the EU Digital Single Market, BEUC Additional Comments' (2015)

<<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/25081.html>>.

⁷⁷ European Commission, "Special Eurobarometer 359: Attitudes on Data Protection and Electronic Identity in the European Union" (the "EC Survey") (2011) Tables section, 15.

⁷⁸ ICO, "Annual Track 2014" (2014) 10.

⁷⁹ Direct Marketing Association, 'Data Privacy: What the Consumer Really Thinks' (2012) 7.

⁸⁰ Aleecia McDonald and Lorrie Faith Cranor, 'Beliefs and Behaviors: Internet Users' Understanding of Behavioral Advertising' (2016) SSRN Paper 22 <<https://papers.ssrn.com/abstract=1989092>>.

always or frequently concerned and 74% were more concerned than last year.”⁸¹

It transpires from the above that users indeed care about the collection of their personal data, and that they tend to dislike such fact. However, it is an undisputed fact that consumers seldom read, let alone understand, privacy policies.⁸² As a result, there seems to be a dichotomy between users’ privacy concerns and their actual online behaviour. This phenomenon has been termed as the ‘privacy paradox’.⁸³

The privacy paradox has been explained in terms of convenience. For example, Chisholm has observed: “if you look at the behaviour of consumers online, very often when given a choice between a bit more privacy and a bit more convenience, it is convenience that is chosen.”⁸⁴ Thus, confronted with a privacy policy they must accept to use an online service, consumers just ‘tick the box’ and proceed to enjoy the service without reading it, thereby choosing convenience over privacy.

Convenience may well be the explanation for the behaviour of a portion of consumers. It is submitted, however, that this is just part of the story. Privacy policy design issues, asymmetric information and impediments to rational decision-making also play a significant role.

Firstly, privacy policies are almost invariably lengthy. One study showed that a user would take 244 hours per year, or 40 minutes a day, to read all the privacy policies of the websites he visits, which is more than half of the average time users spend on the Internet.⁸⁵ The same study shows that if users actually read all such policies, this would entail USD781 billion in opportunity costs.⁸⁶ The foregoing is confirmed by stories reported in the media in the sense that some website’s privacy policies are lengthier than

⁸¹ TRUSTe, ‘Consumer Opinion and Business Impact. TRUSTe Research Report’ (2014) 3.

⁸² For instance, according to the EC Survey, only 34% of consumers stated having read and understood privacy policies. See EC Survey (n 77).

⁸³ Patricia A Norberg, Daniel R Horne and David A Horne, ‘The Privacy Paradox: Personal Information Disclosure Intentions versus Behaviors’ (2007) 41 *Journal of Consumer Affairs* 100.

⁸⁴ Alex Chisholm, ‘Oral Evidence - Online Platforms and the EU Digital Single Market’ (2015) <<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/oral/24274.html>>.

⁸⁵ Aleecia M McDonald and Lorrie Faith Cranor, ‘The Cost of Reading Privacy Policies’ (2008) 4 *I/S: A Journal of Law and Policy* 543, 563.

⁸⁶ *ibid* 564.

Shakespeare's Hamlet and Macbeth.⁸⁷ Moreover, in addition to lengthy, privacy policies are difficult to understand,⁸⁸ as they are often expressed in incomprehensible legal language.⁸⁹ Further, they are typically vague as to under which circumstances and to whom personal data may be transferred,⁹⁰ simply referring, for instance, to 'improving customer experience' or 'trusted third parties.' For example, a survey conducted by Deloitte showed that only 22% of Internet users who read privacy policies understood how firms were supposed to use their data.⁹¹ Indeed, the CMA confirmed that "consumers want more transparency and clearer explanations of how their data will be used before they consent to its collection."⁹² To make things worse, privacy policies commonly change over time. For instance, Facebook has historically and increasingly introduced changes to its privacy policy, which has led to users' data being more publicly available.⁹³

Secondly, online privacy choices are affected by significant information asymmetries, as data subjects without exception know less than data holders about the scope and pervasiveness of data collection and the use of shared or collected volunteered or observed personal data. Even if people effectively read all relevant privacy policies on a regular basis, they still would not know what specific kind of data is being held, for how long, in what format, under which security measures, for what purposes it will be used (for instance, targeted advertising or price discrimination) or to whom the data may be shared.⁹⁴ In addition, data subjects know very little about and cannot duly assess the consequences of agreeing to specific present collections, uses or disclosures of their data.⁹⁵ For example, consumers cannot possibly know about the data aggregation and data mining practices of companies, what kind of information about them is out there, how accurate the same is, and how such information may be used by prospective employers to accept or decline a job application or by insurance companies to set the amount of an

⁸⁷ Alex Hudson, 'Is Small Print in Online Contracts Enforceable?' (2013) *BBC News* <<http://www.bbc.co.uk/news/technology-22772321>>.

⁸⁸ Erik Sherman, 'Privacy Policies Are Great -- for PhDs' (2008) *Moneywatch* <<http://www.cbsnews.com/news/privacy-policies-are-great-for-phds/>>.

⁸⁹ Wolfgang Kerber, 'Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection' (2016) MAGKS, Joint Discussion Paper Series in Economics 14-2016 11.

⁹⁰ CMA (n 13) 136.

⁹¹ Deloitte, "Data Nation 2014: Putting Customers First" (2014) 10.

⁹² CMA (n 13) 138.

⁹³ Matt McKeon, 'The Evolution of Privacy on Facebook' (2010) <<http://mattmckeon.com/facebook-privacy/>>.

⁹⁴ Katherine J Strandburg, 'Free Fall: The Online Market's Consumer Preference Disconnect' (2013) Vol. 2013, Article 5 University of Chicago Legal Forum 95, 144.

⁹⁵ Daniel J Solove, 'Privacy Self-Management and the Consent Dilemma' [2012] 126 Harv. L. Rev. 1880 1886.

insurance premium.⁹⁶ Relatedly, whilst the biggest consumer concern is unauthorised sharing of data to third parties, most consumers do not know about the existence and practices of companies that buy personal data for enhanced profiling purposes.⁹⁷

Thirdly, as noted, privacy as a non-price parameter of competition presupposes an informed and rational person who makes appropriate decisions about whether to consent to various forms of collection, use, and disclosure of personal data;⁹⁸ however, behavioural economics and social science research have empirically shown that, far from being informed and rational agents, people are affected by bounded rationality that limits our ability to thoroughly search for the best outcome, as well as by framing effects and heuristics.⁹⁹

Indeed, “in the presence of complex, ramified consequences associated with the protection or release of personal information, our innate bounded rationality limits our ability to acquire, memorize and process all relevant information”.¹⁰⁰ Instead, people resort to simple models and strategies. For example, when confronted with a choice between a zero-priced product and the same product having a positive yet negligible price tag (say 10 pence), bounded rationality causes people to choose the zero-price option, in spite of any possible privacy harms that may ensue that would not take place had the product sold at positive price been chosen.¹⁰¹ Similarly, empirical research has found that the overwhelming majority of consumers believe that the term ‘privacy policy’ conveys a baseline level of practices that protect online privacy, regardless of its actual terms.¹⁰² Relatedly, privacy seals are commonly considered as sign of reliability of a given website showing them, in spite that consumers are unaware of what a site must do to acquire a

⁹⁶ Newman (n 26) 3.

⁹⁷ ‘Consumers are largely unaware of the existence of data brokers.’ See FTC (n 23) C-3.

⁹⁸ Solove (n 95) 1883.

⁹⁹ Alessandro Acquisti and Jens Grossklags, ‘What Can Behavioral Economics Teach Us about Privacy’, in Alessandro Acquisti, Stefanos Gritzalis, Costas Lambrinoudakis and Sabrina De Capitani di Vimercati (eds), *Digital Privacy: Theory, Technologies and Practices* (Auerbach Publications, Taylor & Francis Group 2007) 364.

¹⁰⁰ *ibid* 369.

¹⁰¹ “The fact that people willingly abrogate the privacy of their own personal information by conveying such information to firms over the Internet in order to try free products, despite preferences for privacy, is therefore likely attributable to bounded rationality and information asymmetry on the part of the consumer”. Chris Jay Hoofnagle and Jan Whittington, ‘Free: Accounting for the Costs of the Internet’s Most Popular Price’ (2013) 61 UCLA L. Rev. 606, 639.

¹⁰² Joseph Turow, Chris Jay Hoofnagle, Deirdre K. Mulligan, Nathaniel Good and Jens Grossklags, ‘The FTC and Consumer Privacy in the Coming Decade’ (2006) 3 I/S: A Journal of Law and Policy for the Information Society 723, 748.

seal, or even what a genuine seal actually looks like.¹⁰³ Moreover, the manner in which choices are framed are likely to shape and skew people's privacy preferences.¹⁰⁴ For example, in an experiment conducted by Good *et al.*, users had to install one software between two choices, KaZaA and eDonkey. The terms of use of the former said little about the type of information being collected and did not offer an opt-out, whereas the latter disclosed detailed information about what personal information could be collected, offering an opt-out of this process. The majority of participants indicated that "KaZaA didn't seem as bad as eDonkey", which suggests that the way in which the provision of information is framed can lead to different impressions about security or risks involved, with vague terms creating an impression of increased security or less risks.¹⁰⁵ Additionally, heuristics¹⁰⁶ are likely to guide decision-making processes more than rational choices. For instance, people assess familiar dangers as riskier than unfamiliar ones ('availability heuristic');¹⁰⁷ people tend to discount as improbable events that are difficult to picture mentally such as identity theft ('simulation heuristic'); and individuals tend to relate reliability with a website's professional appearance and design ('representativeness heuristic').¹⁰⁸

As a result, even if consumers in general are concerned about the protection of their personal data, there are several issues that prevent them from making rational and informed decisions as to whether or not to use a service under the privacy policies presented to them.

Condition 2: This condition requires that consumers have (i) a reasonable level of knowledge on how personal data is used; and (ii) the possibility to corroborate the firms' observance of their commitments included in their privacy policies.

None of these two requirements are met. Firstly, as seen in Condition 1 above, consumers seldom read the privacy policies of the sites they use, and if they read them, they are

¹⁰³ Trevor Moores, 'Do Consumers Understand the Role of Privacy Seals in E-Commerce?' (2005) 48 Communications of the ACM 86, 88.

¹⁰⁴ Solove (n 95) 1887.

¹⁰⁵ Nathaniel Good, Jens Grossklags, David Thaw, Aaron Perzanowski, Deirdre K. Mulligan and Joseph Konstan, 'User Choices and Regret: Understanding Users' Decision Process about Consensually Acquired Spyware' (2006) 2 I/S: A Journal of Law and Policy for the Information Society 283, 323–324.

¹⁰⁶ Heuristics can be defined as simple and efficient techniques which help learning or problem solving. See Acquisti and Grossklags (n 99).

¹⁰⁷ Solove (n 95) 1887.

¹⁰⁸ Acquisti and Grossklags (n 99).

commonly not capable of understanding them, as they are written in legalese. And even those who are able to understand legalese cannot find any information on how data will be used and shared, as privacy policies are drafted in vague terms and are commonly amended from time to time.

Secondly, firms' data collection, storage and processing practices are not directly observable by consumers,¹⁰⁹ for which reason they can hardly verify whether the different data protection commitments of online undertakings are honoured. Indeed, the algorithms developed by online platforms are protected by IPRs, and the ways in which they operate, how they combine data, and the concrete results arising from data processing remain highly secret.¹¹⁰ In addition, even if a company observes its privacy commitments, nothing prevents it from purchasing data from other companies (for example, data brokers) to develop more detailed consumer profiles, without consumers' knowledge and consent. This practice is commonly concealed from consumers.¹¹¹

Condition 3: This condition requires strong and effective enforcement of the data protection laws. However, data protection laws and enforcement have been strongly criticised as ineffective.

In Europe, data protection law has been dubbed 'dead letter', as the law and related court judgments are having "only a marginal effect on data processing practices."¹¹² The influential privacy scholar Omer Tene has contended that EU data protection "enforcement has been fickle, and sanctions weak."¹¹³ In the UK, empirical research led McCullagh to conclude that "the regulator's investigative and enforcement powers [...] have been, and continue to be, lamentably weak and ineffective."¹¹⁴ In addition, security breaches resulting in undesired data disclosures, privacy loss and identity theft are

¹⁰⁹ Strandburg (n 94) 142.

¹¹⁰ David Alexander, 'Revised Transcript of Evidence Taken before the Select Committee on the European Union, Internal Market Sub-Committee, Inquiry on Online Platforms and the EU Single Digital Market' (2015) <<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/oral/25769.html>>.

¹¹¹ Jan Whittington and Chris Jay Hoofnagle, 'Unpacking Privacy's Price' (2012) 90 N. C. L. Rev. 1327 1360.

¹¹² Bert-Jaap Koops, 'The Trouble with European Data Protection Law' (2014) 4 International Data Privacy Law 250, 250.

¹¹³ Omer Tene, 'Privacy Law's Midlife Crisis: A Critical Assessment of the Second Wave of Global Privacy Laws' (2013) 74 Ohio St. LJ 1217, 1224.

¹¹⁴ University of East Anglia, 'UK's Data Protection Regulator Is "ineffective", Says Research - Press Release Archive - UEA' (2013) <https://www.uea.ac.uk/about/media-room/press-release-archive/-/asset_publisher/a2jEGMiFHPhv/content/uk-s-data-protection-regulator-is-ineffective-says-research>.

becoming an increased and recurrent phenomenon, with ineffective enforcement of data protection law being pointed out as one of its underlying causes.¹¹⁵ In the U.S., it is commonly agreed that neither federal nor state laws are effective at addressing forms of data collection by companies such as Facebook and Google,¹¹⁶ and the FTC has been hardly criticised for ineffective enforcement of American privacy laws under Section 5 of the FTC Act.¹¹⁷

Condition 4: This condition requires effective competition and availability of consumer choice, both in terms of online service providers and different degrees of data protection offered by them under their privacy policies.

Regrettably, this condition is not met in reality. As seen in the preceding Chapters, some online platform markets are characterised by the presence of undisputedly dominant firms, high barriers to entry and several types of feedback effects that render the likelihood of success of any challenge launched by a competitor against the incumbent very slim.

Moreover, privacy policies are adhesive by definition, presented as a take-it-or-leave-it option. Think of Apple's iTunes Store end-user agreement.¹¹⁸ This agreement pops up from time to time requiring user consent. Users who intend to download apps, music or any other available content have no choice but to agree to such terms. Consent is technically given, but there is nothing close to bargaining in this process, and every firm providing online services invariably offers this type of binary 'option', without any room for granularity. Hence, even if consumers read them, they can neither renegotiate nor reasonably expect to change the privacy policies of firms such as Apple, Google or Facebook, and if they do not accept the terms of the policies presented to them, they cannot use the services altogether.

¹¹⁵ Terry Dillard, 'Hippocratic Database and Active Enforcement', in Steven A. Brown and Mary Brown (eds), *Ethical Issues and Security Monitoring Trends in Global Healthcare: Technological Advancements* (IGI Global 2011) 44.

¹¹⁶ Daniel J Solove and Woodrow Hartzog, 'The FTC and the New Common Law of Privacy' (2014) 114 Columbia Law Review 583, 587.

¹¹⁷ Marc Rotenberg, 'EPIC Letter to Committee on Oversight and Government Reform Regarding hearing "The Federal Trade Commission and Its Section 5 Authority: Prosecutor, Judge and Jury"' (2014) <<https://epic.org/privacy/ftc/EPIC-Congress-re-FTC.pdf>>.

¹¹⁸ Apple Inc., 'iTunes Store - Terms and Conditions' <<http://www.apple.com/legal/internet-services/itunes/us/terms.html>>.

III. Conclusions

There are significant concerns arising from the operation of online markets which are not limited to competition law. As a direct consequence of the data race in which online firms participate to gain a 'data-advantage', they reduce individuals' private space, compound their lack of control over personal data, increase the potential of data theft, narrow individuals' choices, reinforce information asymmetries and create new discrimination routes.

To tackle the interrelated competition and privacy concerns in online markets, theories have been put forward to bring data protection considerations into the centre of competitive assessments. This Chapter demonstrates that each of these approaches is affected by one or another obstacle for its successful implementation. Firstly, delineating 'markets for data' entails defining a non-existent market, as there are no observable market transactions between firms supplying and consumers purchasing data. Secondly, the inclusion of data protection considerations in the consumer welfare standard could lead to a counter-intuitive scenario where, in competition proceedings, agreements, mergers or conduct are punished on non-competition grounds. Whilst it is true that the operation of online markets poses a serious threat to the fundamental right to data protection of individuals and also raises competitive issues, it does not follow that competition and data protection assessments should be combined into one sort of two-headed monster characterised by unpredictability and subjectivity. Thirdly, whilst the 'privacy as a parameter of competition' approach is theoretically correct, in reality, privacy has not emerged as a meaningful competition parameter, in spite of consumers' well-documented and growing concerns about the protection of their personal data.

The fact that privacy has not yet emerged as a meaningful parameter of competition despite the preferences of 60%-70% of consumers who are concerned about their online privacy shows that online markets are performing poorly. Consumer dissatisfaction should be heeded. Contending that consumers do not really care about the protection of their personal data because they continue using online products and services that are

highly privacy-invasive¹¹⁹ is tantamount to arguing that people do not care about potential plain crashes because they continue flying. In practice there is no choice, and concrete actions should be taken to correct this state of affairs.

¹¹⁹ Allison Schiff, 'Do Consumers Care About Their Privacy In Practice? The FTC Digs Into The Debate' (2016) *AdExchanger* <<https://adexchanger.com/data-exchanges/consumers-care-privacy-practice-ftc-digs-debate/>>.

CHAPTER 5. The Holistic Enforcement Approach

Introduction

As explained in Chapter 4, between 60% and 70% of consumers are concerned about the manner in which their personal data is processed by online firms. Lack of control over personal data is a ‘core theme’ for consumers.¹ Accordingly, there is a latent demand for online products and services that are more privacy-friendly, or at least that offer more granularity in terms of data protection. However, markets forces have failed to satisfy this demand. The reason for this lies, firstly, in data protection and consumer protection regulatory failures that arise before competition enforcement, and secondly, in certain law infringements by online platforms through which they avail themselves of these regulatory failures in order to maintain and strengthen their dominant positions and exploit consumers.

On the data protection front, the processing of personal data requires a legal basis. The most common legal basis to which online firms resort is user consent, which must be specific and informed. The fact that user consent must be specific and informed means in practice that data protection law places upon users the highly labour-intensive task of carefully reading and understanding the privacy policies of all the online services they use, as amended from time to time, in order to make a conscious decision as to whether the data collection practices of a given online firm are consistent with their privacy preferences.

The abovementioned cumbersome task that data protection law places upon consumers clashes with consumer protection regulatory failures. There is a significant informational gap between online firms and consumers, since companies know everything about their data collection practices and the value they can derive therefrom, but some consumers struggle even to understand what a privacy policy is. The complex drafting technique used

¹ CMA, ‘The Commercial Use of Consumer Data – Report on the CMA’s Call for Information’ (2015) 116.

in privacy policies and consumers' bounded rationality and impediments to rational decision-making compound this informational gap.

The interaction between these regulatory failures leads to a scenario where, of those 60%-70% of consumers that are concerned about the protection of their personal data, a big portion of them chooses to remain in blissful ignorance, and proceeds to simply 'tick the box'. Other consumers attempt to understand the privacy-related implications arising from the use of online services, but fail to overcome the informational gap and their bounded rationality. Finally, a portion of those consumers is able to defeat these obstacles, just to realise that pervasive online tracking is almost unavoidable, and that there are no viable choices to protect their online privacy. As a result, there is no pressure on dominant firms to innovate in privacy-friendly services, in spite of the latent demand for them.

Online platforms may be tempted to avail themselves of the regulatory failures above to attain or strengthen their dominant position. In particular, since platforms are aware of the lack of consumer engagement with privacy policies, they may process personal data without giving due notice and therefore without meeting the requirements for consent to be valid (and without any legal basis whatsoever) in order to gather more valuable data than they are legally entitled to. In this way, they can fuel data-driven network effects and expand more easily onto related markets. At the same time, online platforms may engage in unfair commercial practices or otherwise violate consumer protection rules to prevent potential consumer engagement with privacy policies and deepen consumer confusion and misinformation with regard to the privacy-related consequences that arise from the use of their services. In this way, they ensure that the pressure to develop and offer privacy-sensitive solutions consistent with the preferences of many unsatisfied consumers remain low. A question that follows is whether a new category of abuse of dominance based on such infringements can be created, and how can this abuse be established and prosecuted.

It is submitted that the detrimental effects on competition arising from the violations of data protection and consumer protection law by some online platforms warrant the creation of a new category of abuse on this basis. However, to address such a complex scenario with many layers of interrelated issues falling within the remit of different

branches of law, a coherent and sound approach to law enforcement is required. It is argued that the *substantial assessments* of the different branches of law that are relevant to the digital economy should not be collided with each other, as some have proposed.²

However, at the level of *enforcement*, Article 102 TFEU can use certain infringements of data protection and consumer protection law, as duly assessed and established under their relevant substantial provisions, as the basis to trigger competition proceedings. Such interaction requires that (i) one or more infringements be established by data protection and/or consumer protection authorities in final decisions; (ii) there is a close connection between the infringements and the infringer's dominant position, and (iii) the infringements cause or are likely to cause exclusionary effects and/or exploit consumers.

Maintaining the analytical independence of the different bodies of law involved contributes to the achievement of predictability and legal certainty, and ensures respect of the principle of legality. In turn, conceiving a new approach to law enforcement as described above improves the internal coherence of EU law, regard being had to the policy-linking clause of Article 7 TFEU and more generally the objectives of the European Treaties.

Section I gives an overview of the main data protection and consumer protection rules that are relevant to the digital economy, describing the main concerns falling within their remits that are commonplace in online markets. Thereafter, it explains the manner in which said concerns interact in a loop (the 'vicious cycle'). It is argued that the interrelated nature of the concerns comprising the vicious cycle and the integrity of the legal system as a whole require a joint effort on the part of law enforcers and policymakers. Section II introduces the 'holistic enforcement approach' (HEA). In particular, it explains (II.1 to II.4) under which conditions data protection and consumer protection infringements can be the legal basis of a hypothetical abuse of dominance case instituted against a dominant platform, as well as the manner in which such abuse can be established and prosecuted. The proposed approach requires coordination amongst competition, data protection and consumer protection authorities, and is staggered in two stages: in stage one, data protection and consumer protection authorities must establish the relevant infringements in final decisions, and in stage two, Article 102 TFEU proceedings are commenced

² See Chapter 4 Section II.1.2.

against the infringer based on the attainment or strengthening of a dominant position as a result of such infringements. Abuses can be exclusionary and exploitative. For an exclusionary abuse to exist (II.5), the data protection law and consumer protection law infringements must imply a departure from normal competition that lessens competition in one or more relevant markets. For an exploitative abuse to exist (II.6), dominant platforms must impose unfair trading conditions which they would not be able to impose under competitive conditions, contrary to their users' preferences. Concluding this Section, arguments against and in support of the HEA are discussed (II.7). Section III concludes.

I. The Vicious Cycle

1. General

As seen in Chapter 3,³ some online markets are particularly concentrated, and their respective incumbents are isolated from meaningful competitive pressure. In such markets, consumer choice is extremely limited. Facing little competition, dominant platforms are able to coerce consumers into accepting privacy policies that allow for excessive extraction of personal data, since they know that the demand for their services will not shift to other providers offering more privacy-friendly services (as privacy has not emerged as a meaningful parameter of competition).

However, consumer surveys are consistent in the sense that a great portion of consumers is concerned about their online privacy, and consequently are interested in services that are more 'privacy-friendly'. As a result, there is a latent demand for privacy-friendly online services yet to be realised, and market forces should urge newcomers and market participants to come up with services that are capable of fulfilling the privacy requirements of 60-70% of EU consumers.⁴

Market forces, however, have failed to exert pressure for the provision of privacy-friendly options, partly, due to a combination of data protection and consumer protection

³ See Chapter 3 Section II.5.

⁴ See Chapter 4 Section II.2.3, discussion on Condition 1.

regulatory failures.⁵ Sections I.2 and I.3 below explain some basic concepts of these fields of law, as well as their respective regulatory failures impinging upon the competitive process in online markets. Section I.4 illustrates the operation of the ‘vicious cycle’, and Section I.5 explains how the status quo in online markets benefits online firms, to the detriment of consumers. It also explains that online platforms may resort to unlawful behaviour to keep the pressure for the provision of privacy-friendly options at bay, maintain the status quo and derive an anticompetitive advantage capable of maintaining and reinforcing their dominant positions and exploiting consumers.

2. Data Protection Law

2.1 General

Article 8 of the Charter enshrines the protection of personal data as an independent right. Whilst the case law of the ECtHR and the CJEU has considered privacy to be at the core of data protection, these rights are not identical, as they differ *inter alia* in their scope and with regard to their permissible interferences.⁶

Article 16 TFEU is the legal basis for the enactment of rules on data protection. The EU first adopted data protection legislation in 1995 (the Data Protection Directive 1995,⁷ ‘DPD’). However, the scale of personal data processing and data processing technologies

⁵ ‘Regulatory failures arise, firstly, when the regulation is effective in reaching its goal of correcting the market failure, but achieves this objective at too high a cost for society, i.e. regulation is effective but inefficient. Secondly, when the regulation produces net benefits, but does not correct or only imperfectly corrects for the market failure, i.e. regulation is efficient but ineffective. Thirdly, regulation can be both ineffective and inefficient. Thus defined, regulatory failures may be triggered by a lack of analysis of the regulatory issue, problems and contrasts in the regulatory process and lack of implementation and enforcement of regulation.’ See Giampaolo Galli and Jacques Pelkmans, ‘Introduction: Aims, Structure and Overview’, in Giampaolo Galli and Jacques Pelkmans (eds), *Regulatory Reform and Competitiveness in Europe, 1 - Horizontal Issues* (Edward Elgar Publishing 2000) 23–24.

⁶ With regard to the scope of these rights, private life does not necessarily include all information on identified or identifiable persons, which is exactly what data protection law covers. In addition, data protection law imposes obligations relating to the processing of personal data on public authorities and private parties, as opposed to the right to privacy, which cannot be invoked directly against private parties. In turn, with regard to permissible interferences, personal data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or on some other legitimate basis laid down by law; if these conditions are met there is no interference with the right to data protection, although the collection, storage or disclosure of said data may still interfere with private life. See generally Juliane Kokott and Christoph Sobotta, ‘The Distinction between Privacy and Data Protection in the Jurisprudence of the CJEU and the ECtHR’ (2013) 3 *International Data Privacy Law* 222.

⁷ Directive 95/46/EC of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data [1995] OJ L 281/31.

have evolved dramatically since such time.⁸ As the Directive was perceived as fundamentally out-dated, the new General Data Protection Regulation (GDPR)⁹ was adopted by the European Parliament on 14 April 2016.¹⁰ The GDPR aims to increase individuals' control over their personal data and accountability on the part of data controllers. Although the new GDPR came into force 20 days after its publication in the EU Official Journal (that is, on 25 May 2016), it will not be applicable until 25 May 2018, due to its two-year implementation period.

Data protection law applies to the processing of personal data. The GDPR defines personal data as “any information relating to an identified or identifiable natural person”, and elaborates this further by explaining that “identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.”¹¹

In turn, the GDPR defines processing as “any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.”¹²

The processing of personal data requires a legal basis, the most common of which is consent of the data subject.¹³ The GDPR specifies that:

⁸ At the time of enactment of the DPD, only 1% of the EU population was using the Internet, Amazon and eBay were still being launched, the founder of Facebook was 11 years old and Google did not exist. See Viviane Reding, ‘Outdoing Huxley: Forging a High Level of Data Protection for Europe in the Brave New Digital World’ (2012).

⁹ Regulation (EU) 2016/679 of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) OJ L 119/1.

¹⁰ ‘Data Protection Reform - Parliament Approves New Rules Fit for the Digital Era | European Parliament’ (2016) *News - European Parliament* <<http://www.europarl.europa.eu/news/en/news-room/20160407IPR21776/data-protection-reform-parliament-approves-new-rules-fit-for-the-digital-era>>.

¹¹ Article 4(1) GDPR.

¹² Article 4(2) GDPR.

¹³ Article 6(a) GDPR.

“[c]onsent should be given by a clear affirmative act establishing a freely given, specific, informed and unambiguous indication of the data subject’s agreement to the processing of personal data relating to him or her, such as by a written statement, including by electronic means, or an oral statement..”¹⁴

The Article 29 Working Party (A29WP) has clarified the requirements of consent to be valid:

‘Freely given’ means that, for consent to be valid, the data subject must be able to exercise a real choice, without significant negative consequences if he/she does no consent.¹⁵

‘Specific’ means that the consent must clearly and precisely refer to the scope and consequences of the data processing. It cannot apply to an open-ended set of processing activities. Consent “notably includes which data are processed and for which purposes”.¹⁶

‘Informed’ means that all information necessary for the data processing operation must be provided at the time the consent is requested, addressing all of the substantial aspects of the processing in respect of which the consent is needed.¹⁷ The individual concerned “must be given, in a clear and understandable manner, accurate and full information of all relevant issues [...] such as the nature of the data processed, purposes of the processing, the recipients of possible transfers, and the rights of the data subject. This includes also an awareness of the consequences of not consenting to the processing in question.”¹⁸

Two significant considerations apply to this requirement: Firstly, the way the information is given (in plain text, without use of jargon, understandable, conspicuous) is crucial in assessing whether the consent is “informed”. The way in which this information should be given depends on the context: a regular/average user should be able to understand it. Secondly, information must be given directly to individuals. It is not enough for information to be “available” somewhere. The information must be clearly visible (type and size of fonts), prominent and comprehensive.¹⁹

¹⁴ GDPR recital 32.

¹⁵ Article 29 Data Protection Working Party, ‘Opinion 15/2011 on the Definition of “consent”’ (2011) 12.

¹⁶ *ibid* 17.

¹⁷ *ibid* 9.

¹⁸ Article 29 Data Protection Working Party, ‘WP131 - Working Document on the Processing of Personal Data Relating to Health in Electronic Health Records.’ (2007) 9.

¹⁹ Article 29 Data Protection Working Party, (n 15) 20.

Finally, unambiguous means that “the procedure to seek and to give consent must leave no doubt as to the data subject’s intention to deliver consent. In other words, the indication by which the data subject signifies his agreement must leave no room for ambiguity regarding his/her intent. If there is a reasonable doubt about the individual’s intention, there is ambiguity.”²⁰

The E-privacy Directive²¹ is particularly relevant in relation to tracking techniques used by the overwhelming majority of online firms. According to its Article 5(3), access to information stored in a device of a user is only allowed “on condition that the subscriber or user concerned is provided with clear and comprehensive information in accordance with Directive 95/46/EC, *inter alia* about the purposes of the processing, and is offered the right to refuse such processing by the data controller.” This means that data controllers must obtain consent prior to the placement of cookies that are not strictly necessary for the provision of a service (for example, to track browsing behaviour when not using a search engine or outside a social networking platform).

Other legal bases are where processing is necessary for the performance of a contract to which the data subject is a party (subject to proportionality²² and subsidiarity principles²³); for compliance with a legal obligation to which the controller is subject; to protect the vital interests of the data subject or another natural person; for the performance of a task carried out in the public interest; and for the purposes of the legitimate interests pursued by the controller or by a third party (subject to proportionality and subsidiarity principles).²⁴

2.2 Regulatory Failure

The most common basis invoked for the processing of personal data is freely given, informed, specific and unambiguous user consent. The recently enacted GDPR remains

²⁰ *ibid* 21.

²¹ Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) [2002] OJ L 201/37.

²² The infringement of the interests of the data subject affected by the data processing may not be disproportionate in relation to the purpose to be served by the processing.

²³ The purpose cannot be achieved otherwise or using less drastic means.

²⁴ Article 6(1)(b) to (f) GDPR.

largely consent-based. Yet, it is precisely with regard to consent where the most salient problem arises.

By being inherently consent-based, data protection law has placed upon data subjects/consumers the highly complex task of assessing the privacy-related consequences arising from the use of a given online service. Consumers are bound to carefully read the privacy policies of all the online services they use in order to decide whether the relevant online service provider's data collection practices are consistent with their privacy preferences, and whether the expected benefits derived from using the service outweigh any possible privacy harms they may envisage. Consumers are also expected to actively read and understand every privacy policy in order to be able to exercise their data protection rights.

However, as will be seen below, consumer protection regulatory failures render the successful execution of the aforementioned task extremely difficult. In practice, the majority of consumers, including those concerned about their privacy, simply 'tick the box', thereby giving a type of consent that is essentially fictional. According to Cate and Mayer-Schönberger, this situation is likely to "leave individuals' privacy badly exposed, as individuals are forced to make overly complex decisions based on limited information, while data processors can perhaps too easily point to the formality of notice and consent and thereby abrogate much of their responsibility."²⁵

3. Consumer Protection Law

3.1 General

Consumer protection as an overarching principle of EU law can be found in Article 38 of the Charter, which requires EU policies to ensure a high level of consumer protection, and in Article 12 TFEU, which requires that consumer protection requirements be taken into account in defining and implementing other EU policies and activities.

²⁵ Fred H Cate and Viktor Mayer-Schönberger, 'Notice and Consent in a World of Big Data' (2013) 3 International Data Privacy Law 67, 68.

The consumer protection rules are intended to ensure that consumers can choose effectively from amongst the options offered in the marketplace, with their critical faculties unimpaired by violations such as deception or the withholding of material information.²⁶ Generally speaking, diversity of standards and consumer confidence is detrimental to the smooth functioning of the internal market and distorts competition, whilst common standards, choice and fairness are beneficial.²⁷ The implementation of consumer policies at EU level “can enable consumers to make informed choices that reward competition, and support the goal of sustainable and resource-efficient growth, whilst taking account of the needs of all consumers.”²⁸

To achieve the aforementioned aims, consumer protection law targets inefficiencies arising from market failures relating to imperfect information, and particularly asymmetric information between producers and consumers.²⁹ In addition, inequality of bargaining power between undertakings and consumers is one of the main concerns consumer protection law is designed to tackle. As the CJEU has held, “the system of protection introduced by the [Directive on Unfair Terms in Consumer Contracts] is based on the idea that the consumer is in a weak position vis-à-vis the seller or supplier, as regards both the bargaining power and his level of knowledge.”³⁰ Finally, consumer protection law is called upon to address market failures that arise from rationality problems of consumers, such as hyperbolic discounting,³¹ over-optimism³² and framing effects.³³

²⁶ Neil W Averitt and Robert H Lande, ‘Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law’ (1997) 65 Antitrust Law Journal 713, 713.

²⁷ EDPS, ‘Preliminary Opinion of the European Data Protection Supervisor. Privacy and Competitiveness in the Age of Big Data: The Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy’ (2014) 24.

²⁸ European Commission, ‘Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: A European Consumer Agenda – Boosting Confidence and Growth’ (2012) 2.

²⁹ Fernando Gomez, ‘EC Consumer Protection Law and EC Competition Law: How Related Are They? A Law and Economics Perspective’ (2003) InDret Working Paper No. 113 6.

³⁰ Joined Cases C-240/98 to C-244/98, *Océano Grupo Editorial SA v Rocío Murciano Quintero and others* [2000] ECR I-4941 [25].

³¹ Hyperbolic discounting refers to the fact that consumer preferences are not consistent over time, which suggest that, when taking decisions, individuals may lack foresight in the short-term, but seem more rational in the long term. See Jana Valant, ‘Consumer Protection in the EU – Policy Overview’ (2015) European Parliamentary Research Service 13

<[http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565904/EPRS_IDA\(2015\)565904_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565904/EPRS_IDA(2015)565904_EN.pdf)>.

³² Over-optimism relates to the fact that individuals are in general over-optimistic with regard to their capabilities and future. *ibid*.

³³ See Chapter 4 text accompanying footnotes 104 and 105.

Among the EU consumer *aquis*, the following Directives are particularly relevant to the digital economy:

Unfair Commercial Practices Directive:³⁴ it defines unfair commercial practices as those that materially distort or are likely to materially distort the economic behaviour with regard to the product of the average consumer whom they reach or to whom they are addressed.³⁵ An example of such practices are misleading commercial practices, which are those (i) which contain false information and are therefore untruthful or in any way deceive or are likely to deceive the average consumer;³⁶ or (ii) which omit material information that the average consumer needs, according to the context, to take an informed transactional decision,³⁷ in both cases causing or being likely to cause the average consumer to take a transactional decision that he would have not taken otherwise. An example of such misleading commercial practice is where a trader hides or provides in an unclear, unintelligible, ambiguous or untimely manner the aforementioned material information, or when the trader fails to identify the commercial intent of the practice if not already apparent from the context.³⁸ According to this Directive, a misleading action occurs when a practice misleads “in any way, including overall presentation”.³⁹ Put in other words, deception can take place through deceptive presentation of information, even if the information provided is factually correct.⁴⁰

Directive on Unfair Terms in Consumer Contracts:⁴¹ it applies to consumer contracts, which are known by the advantage enjoyed by suppliers in defining terms and provisions which consumers cannot negotiate. A non-negotiated term is deemed unfair under this Directive if “contrary to the requirement of good faith, it causes a significant imbalance in the parties’ rights and obligations arising under the contract, to the detriment of the

³⁴ Directive 2005/29/EC of the European Parliament and of the Council concerning unfair business-to-consumer commercial practices in the internal market, (Unfair Commercial Practices Directive) [2005] OJ L 149/22.

³⁵ Article 5(2)(b) Unfair Commercial Practices Directive.

³⁶ Article 6(1) Unfair Commercial Practices Directive.

³⁷ Article 7(1) Unfair Commercial Practices Directive.

³⁸ Article 7(2) Unfair Commercial Practices Directive.

³⁹ Article 6(1)(d) Unfair Commercial Practices Directive.

⁴⁰ European Commission, ‘Unfair Commercial Practices Guidance’

<<https://webgate.ec.europa.eu/ucp/public/index.cfm?event=public.guidance.browse&Article=Article-62&elemID=74#Article-62>>.

⁴¹ Council Directive 93/13/EC of 5 April 1993 on Unfair Terms in Consumer Contracts [1993] OJ L 95/29.

consumer.”⁴² This Directive requires that contracts be drafted in plain, intelligible language, with the consumer having the actual opportunity of examining all the terms; in case of doubt, the interpretation most favourable to the consumer should prevail.⁴³

3.2 Regulatory Failures

First and foremost, there is a significantly informational gap between undertakings and consumers: online platforms enter into privacy contracts with more information relevant to the monetary value of the data to be exchanged than the consumer, for which reason consumers are placed on “the less advantageous side of an agreement formed and executed with asymmetric information.”⁴⁴ Indeed, whilst companies know everything about the data collection practices in which they engage, some consumers struggle even to understand what a privacy policy is. For example, in one recent study 65% of the participants did not know that the statement “[w]hen a website has a privacy policy, it means that the site will not share my information with other websites and companies without my permission” is false.⁴⁵ Additionally, big data mechanisms are opaque, and consumers cannot observe what kind of personal data will be processed, or how or for what purposes it will be processed.

Secondly, consumer protection policy takes as a benchmark “the average consumer, who is reasonably well informed and reasonably observant and circumspect”,⁴⁶ which presupposes consumers who observe all available information, rationally process it and make choices that increase their welfare accordingly. However, as Thaler and Sunstein observe, the assumption “that almost all people, almost all the time, make choices that are in their best interest is false.”⁴⁷ People have bounded rationality and commonly make their decisions based on heuristics, simplified models and the way choices are framed. Bounded by limited information and limited information processing capabilities, people are prone

⁴² Article 3(1) Directive on Unfair Terms in Consumer Contracts.

⁴³ Directive on Unfair Terms in Consumer Contracts, recitals.

⁴⁴ Jan Whittington and Chris Jay Hoofnagle, ‘Unpacking Privacy’s Price’ (2012) 90 N. C. L. Rev. 1327 1341.

⁴⁵ Joseph Turow, Michael Hennessy and Nora A Draper, ‘The Tradeoff Fallacy: How Marketers Are Misrepresenting American Consumers and Opening Them up to Exploitation’ (2015) A Report from the Annenberg School for Communication, University of Pennsylvania 4.

⁴⁶ Unfair Commercial Practices Directive, recital 18.

⁴⁷ Richard H Thaler and Cass R Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness*. (Yale University Press 2008) 9.

to make ‘satisfactory’ substantive decisions instead of ‘optimal’ substantive decisions.⁴⁸ Bounded rationality also cause people to underestimate certain risks (such as privacy harms) and overstate their ability to assess the terms of the contracts they are entering into. People oftentimes make bad decisions when rewards are immediate and harms are deferred, or when the relationship between cause and effect (using a service and expected harms that may derive from such use) is complicated and not immediately visible. The fact that privacy policies are often long and drafted in complex legal terms compounds these issues.

4. Operation of the Vicious Cycle

Confronted with the task imposed by data protection law and the consumer protection regulatory failures explained above, most consumers fail to read the privacy policies of the websites they use, and simply proceed to ‘tick the box’. For instance, UK Minister of State for Culture and the Digital Economy Ed Vaizey MP has expressed:

“You get these very complex terms and conditions. I signed up to some this morning, to an unnamed provider, on my tablet in order to update my software – I do not have a clue what I signed up to.”⁴⁹

Other consumers attempt to become informed on the implications of their online activities, but fail to do so as a result of the existing informational asymmetry between undertakings and consumers, the complex drafting technique used by online firms in their privacy notices, and their bounded rationality and impediments to rational decision-making.⁵⁰

As for those consumers who manage to overcome the aforementioned obstacles and ultimately understand the privacy-related implications of their online actions, they realise that data collection is everywhere, that online tracking is the norm and that there are

⁴⁸ Melvin Aron Eisenberg, ‘The Limits of Cognition and the Limits of Contract’ (1995) 47 *Stanford Law Review* 211, 214.

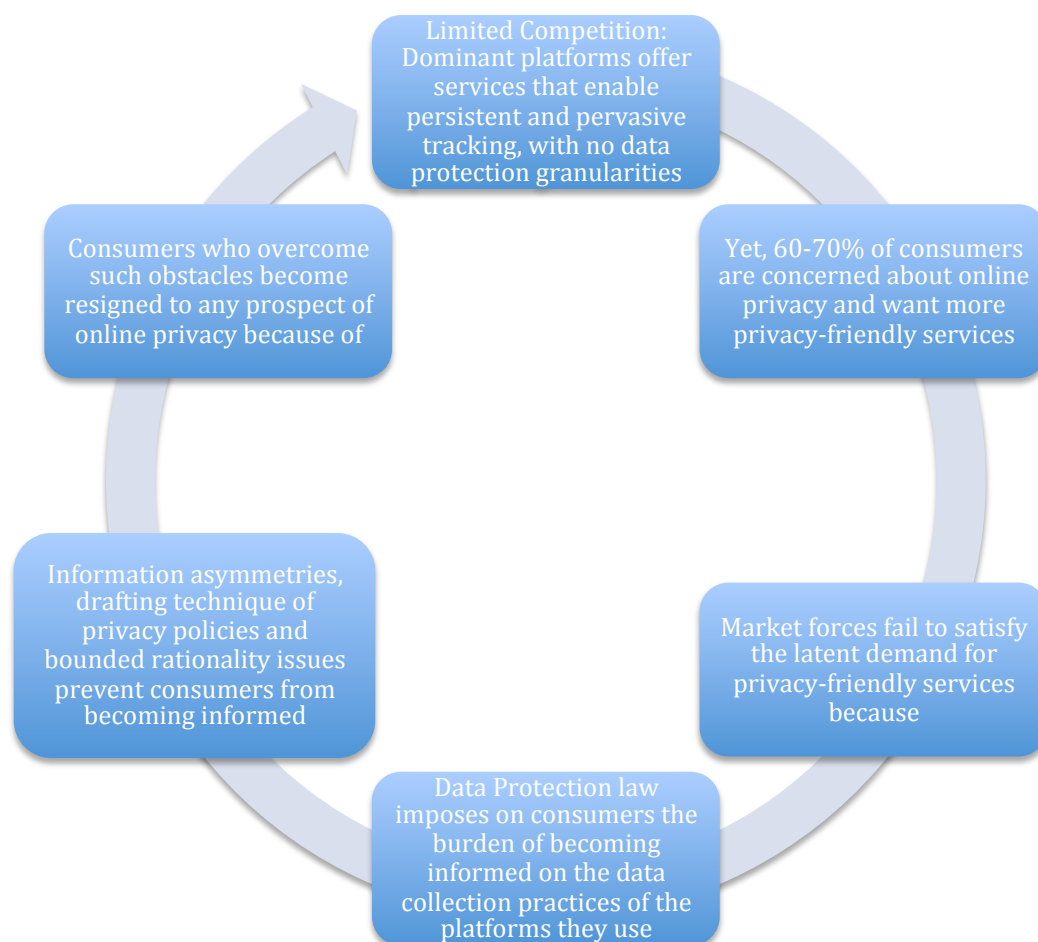
⁴⁹ House of Lords, ‘Online Platforms and the Digital Single Market’ (2016) 62–63.

⁵⁰ [M]any consumers appear unhappy with how well firms explain why they collect data and consider that more could be done to improve transparency.’ CMA (n 1) 106; Similarly, Ofcom, ‘Being Online: An Investigation of People’s Habits and Attitudes - Ofcom’ (2013) 35 <<https://www.ofcom.org.uk/research-and-data/internet-and-on-demand-research/internet-use-and-attitudes/being-online>>: ‘Most [participants] had little or no awareness of how and why their information was used, stored and transferred online, and many participants lacked any real understanding of cookies and targeted advertising.’

virtually no viable choices to protect their online privacy. These consumers become resigned to ubiquitous data collection and tracking.⁵¹

Therefore, of the 60-70% of EU consumers that are worried about how their data is being collected and processed, some have chosen to remain ignorant on the online privacy issue because getting informed is considered a very cumbersome task; some simply cannot understand or are confused about the privacy-related implications arising from the use of online services; and finally others are resigned to not having online privacy, because essentially there are no suppliers offering sufficient levels of data protection. This lack of viable choices takes us back to the competition issue, with which the vicious cycle is closed:

⁵¹ '[A] large pool of [people] feel resigned to the inevitability of surveillance and the power of marketers to harvest their data [...] [T]he larger percentages of people in the population who are resigned compared to people who believe in principle that tradeoffs are a fair deal indicate that in the real world people who give up their data are more likely to do it while resigned rather than as a result of cost-benefit analysis'. Turow, Hennessy and Draper (n 45) 4.



5. The Vicious Cycle Serves the Interest of Data-Driven Firms

Widespread consumer confusion and ignorance, and resignation to online privacy on the part of informed consumers, are the elements of a status quo that protects the advertisement-based business model discovered and consolidated by Google, followed by Facebook and quickly spread across the Internet.

Under said business model, users provide the free raw material from which firms extract their profits. Data has proven remarkably valuable. The value of data is the reason why Facebook, a company that charges no fees for the use of its services, was valued at USD 104 billion for its Initial Public Offering, the highest IPO valuation of an American company.⁵² Acknowledging the value of data, most online firms have deployed efforts to

⁵² BBC News, 'Facebook Shares See Modest Debut' (2012) *BBC News* <<http://www.bbc.co.uk/news/business-18115914>>.

monetise users' personal data ranging from browsing behaviour, revealed preferences, search queries to location tracking data. For example, the Brightest Flashlight app, a popular free app on the Android marketplace, collects and broadcast users' locations and device IDs to advertising networks and other third parties each time they launch the app.⁵³ The advent of the Internet of Things will exacerbate this trend, with an increasing number of 'offline' firms attempting to derive profits from user tracking. For instance, following Google's business model, the CEO of Allstate Insurance argued:

“There are lots of people who are monetizing data today. You get on Google, and it seems like it's free. It's not free. You're giving them information; they sell your information. Could we, should we, sell this information we get from people driving around to various people and capture some additional profit source...? It's a long term game.”⁵⁴

Motivated by an insatiable hunger for data, any voices raised against data-driven business models are strongly resisted by incumbents. Claims from privacy-advocates are readily dismissed as attacks against innovation and technological progress.⁵⁵ Arguments from competition officials and scholars about the significance of data for the competitive process are also largely downplayed.⁵⁶

But the fact remains that online platforms and firms prey on people who are neither buyers, sellers nor customers, but rather their products. These firms ignore any existing boundary in their quest for data and the insights they can derive therefrom, in attempts to influence users' behaviour for commercial purposes. As Stucke and Grunes explain:

“As more people use [a platform's array of services], the more data the company collects, the more refined the user profile, the more likely the company can target users with information they might find relevant at critical

⁵³ Nicole Vincent Fleming, 'Sharing Your Location... In a Flash | Consumer Information' (2013) *Federal Trade Commission* <<https://www.consumer.ftc.gov/blog/sharing-your-location-flash>>.

⁵⁴ Shoshana Zuboff, 'Google as a Fortune Teller: The Secrets of Surveillance Capitalism' (2016) *Frankfurter Allgemeine Zeitung* <<http://www.faz.net/aktuell/feuilleton/debatten/the-digital-debate/shoshana-zuboff-secrets-of-surveillance-capitalism-14103616-p2.html?printPagedArticle=true>>.

⁵⁵ “Sometimes the opposition between privacy and innovation is explicit, but more often it is implicit in rhetoric that aligns innovation with unfettered information collection and processing” Julie E Cohen, 'What Privacy Is for' (2012) 126 Harv. L. Rev. 1904, 1919.

⁵⁶ See generally Darren S Tucker and Hill B Wellford, 'Big Mistakes Regarding Big Data' (2014) Antitrust Source; D Daniel Sokol and Roisin E Comerford, 'Does Antitrust Have a Role to Play in Regulating Big Data?', in Roger D. Blair (ed), *The Cambridge Handbook of Antitrust, Intellectual Property and High Tech* (CUP 2017). See also Chapter 2 Conclusions.

purchasing moments, and the more opportunities the platform can observe consumer behaviour and refine its algorithms accordingly.”⁵⁷

Data protection law should counter the increasingly invasive practices of some online firms, but in practice, powerful online platforms routinely choose to violate such law and pay a rather symbolic fine.⁵⁸ The processing of personal data without consent and any legal basis and the growing offering of seemingly free products and services result in the deprivation of users’ privacy and the accumulation of data-driven power in the hands of few firms. Under this dynamic, the bigger gets bigger, and privacy becomes an out-dated ideal.⁵⁹

However, privacy is valued by the majority of Internet users. When the consequences of using the Brightest Flashlight were made public, voices were raised in the sense that the developer’s data collection practices were unacceptable.⁶⁰ Aware of this consumer dissatisfaction, data-driven firms endeavour to keep consumers uninformed, confused and/or resigned to the privacy threats posed by the use of online services. By preserving the status quo, such firms can ensure that the number of consumers aware of the invasiveness of their services remains low, and therefore, they can rest assured that no privacy-based competition will threaten their lucrative business model. Consumer protection law should step in to correct the existing information asymmetries, but platforms circumvent its rules to preserve the status quo.

Considered in isolation, the processing of personal data without legal basis, on the one hand, and consumer protection violations to preserve the aforementioned status quo, on the other hand, are only reproachable under data protection and consumer protection law, respectively. However, as will be seen below,⁶¹ such practices are capable of deriving into the strengthening of dominant positions and the exploitation of consumers.

⁵⁷ Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (OUP 2016) 187.

⁵⁸ Adam Clarke, ‘Google’s Privacy Violations Are More Affordable Than You Think’ (2013) *Motherboard* <https://motherboard.vice.com/en_us/article/pgg9qy/googles-privacy-violations-are-more-affordable-than-you-think>.

⁵⁹ Cofounder of Sun Microsystems Scott McNealy told a group of reporters: “You have zero privacy anyway. Get over it”. ‘Scott McNealy on Privacy: You Still Don’t Have Any’ (2015) *PCWorld* <<http://www.pcworld.com/article/2941052/scott-mcnealy-on-privacy-you-still-dont-have-any.html>>.

⁶⁰ “Though I didn’t realize it at the time, I was potentially handing over a boatload of data to advertisers.” Robert McMillan, ‘The Hidden Privacy Threat of ... Flashlight Apps?’ (2014) *Wired* <<https://www.wired.com/2014/10/iphone-apps/>>.

⁶¹ See below Section II.5.3.

II. The Holistic Enforcement Approach

1. Aim of the Approach

This Chapter proposes a ‘holistic law enforcement approach’ (HEA), which involves cooperation and coordinated enforcement amongst competition, data protection and consumer protection agencies.

In 2014 the EDPS sparked the debate on the intersection between the competition, data protection and consumer protection laws in the digital economy.⁶² The EDPS pleaded for more collaboration between policy-makers of these respective fields⁶³ in light of their commonality of goals and the related concerns affecting online markets. Subsequently, in 2016, the EDPS reiterated this plea, arguing that “there is a quite fragmented scenario in enforcing EU rules, with competent authorities not necessarily talking to each other whilst dealing with cases featured by considerable overlaps in terms of substance.”⁶⁴

Relatedly, the European Consumer Organisation (BEUC) and the Commission have acknowledged that joined-up enforcement and overcoming ‘regulatory fragmentation’ have become an urgent need, with president Juncker expressly calling for the Commission to overcome ‘silo mentalities’.⁶⁵ In addition, the European Parliament recently called for the EU to overcome legal fragmentation when drafting new legislation, and to encourage a high level of coherence when Member States implement EU law.⁶⁶

As a response to these calls, the HEA is conceived as one route to address the concerning tendencies affecting digital markets (i.e. weak competition, violation of fundamental rights and deepened information asymmetries) in a manner that enhances the coherence of EU law.

⁶² EDPS (n 27).

⁶³ *ibid* 38.

⁶⁴ EDPS, ‘Opinion 8/2016: The Coherent Enforcement of Fundamental Rights in the Age of Big Data’ (2016) 9 <https://edps.europa.eu/sites/edp/files/publication/16-09-23_bigdata_opinion_en.pdf>.

⁶⁵ Jean-Claude Juncker, ‘President Juncker’s Political Guidelines’ (2014).

<https://ec.europa.eu/commission/publications/president-junckers-political-guidelines_en>; BEUC, ‘Response to Consultation “Empowering the National Competition Authorities to Be More Effective Enforcers”’ (2016) <http://www.beuc.eu/publications/beuc-x-2016-021_pki_empowering_the_national_competition_authorities.pdf>.

⁶⁶ European Parliament Resolution of 19 January 2016 on Towards a Digital Single Market Act 2015/2147(INI).

2. Components of the HEA

In spite that the data protection consent-based framework largely benefits online platforms, as they can rely on a fictional consent to engage in data processing activities, as shall be seen below, some platforms routinely process data without meeting the requirements for consent to be valid (and without any legal basis whatsoever). For large online platforms, violating data protection law is an affordable activity: they pay a negligible fine and derive huge profits from the additional data streams they unlawfully obtain.⁶⁷ Aside from violating the fundamental right to data protection of individuals, these infringements allow for the unlawful extraction of great amounts of personal data that entrenches market power and distorts competition. Data processing without legal basis leading to the outcome above will be referred to as ‘Component 1’.

By including deceptive and confusing terms in privacy policies and engaging in unfair commercial practices, online platforms contribute to the preservation of the status quo in online markets: they keep consumers uninformed or confused as to the privacy-related implications of using an online service, and deepen the information asymmetries affecting online markets. Large amounts of uninformed consumers translate into the absence of pressure on online platforms to offer privacy-friendly services, in spite of the unsatisfied preferences of numerous consumers. Unfair terms and commercial practices that cause the aforementioned effects will be referred to as ‘Component 2’.⁶⁸

⁶⁷ Clarke (n 58).

⁶⁸ There is some overlap in data protection and consumer protection violations with regard to the provision of information on personal data processing to data subjects/consumers. The obligation to provide information serves different purposes under these two branches of law. In data protection law, the provision of such information is necessary for the data controller to fulfil the transparency obligation. See Brendan Van Alsenoy, Eleni Kosta and Jos Dumortier, ‘Privacy Notices versus Informational Self-Determination: Minding the Gap’ (2014) 28 *International Review of Law, Computers & Technology* 185. In consumer protection law, on the other hand, the obligation to provide clear information about the relevant product being offered serves to fulfil one of the main purposes of this branch of law: to eliminate informational asymmetries in the market place.

As a result of this overlap, the distinction between Component 1 and Component 2 will not be always clear-cut. Indeed, some data protection and consumer protection infringements may have a double effect: they can cause the violation of the data protection rights of individuals and increase information asymmetries in the marketplace. For example, failure to provide sufficient, clear and visible information as to the data processing practices of a platform can be a data protection and consumer protection infringement at the same time, having a visible double effect: it impedes the formation of valid consent (as it would not be informed), and therefore, data processing takes place without legal basis. Also, it prevents consumers from becoming properly informed on the privacy implications of using a given online service, thus contributing to preserve consumer ignorance in the marketplace.

3. Implementation of the HEA

Competition, data protection and consumer protection enforcement agencies ought to work within the limits of their respective remits, as defined by law. The boundaries of their respective powers and competences must be respected,⁶⁹ and the *substantial assessments* of their fields of law must not, congruently, collide or merge with each other, as some have proposed.⁷⁰

Laws can, however, be *enforced* in a joint and harmonious manner to tackle interrelated issues arising from a common phenomenon. To respect this fundamental distinction between separate and independent substantial application of different laws and their harmonic and joint enforcement, the HEA is staggered in two stages. In stage one, infringements of data protection and consumer protection law must be established in final decisions passed by competent data protection and consumer protection authorities, as applicable. In this way, the principle of legality is complied with. A competition authority (DG COMP or a NCA), for example, cannot establish violations of said fields of law and prosecute them as competition infringements, as it would be acting beyond the competences it was attributed by EU law (or the relevant national law) and inadmissibly expanding the remit of competition law.⁷¹ In stage two, Article 102 TFEU proceedings are commenced based on a close connection between the infringements and the infringer's dominant position.

Stage One

Collaboration between competition, data protection and consumer protection agencies to establish the existence of Component 1 and Component 2 is logically of the essence. The EDPS recently proposed the creation of a 'Digital Clearing House',⁷² which would be a voluntary network of contact points in regulatory authorities at national and EU level who

⁶⁹ EDPS (n 64) 9.

⁷⁰ See Chapter 4 Section II.1.2.

⁷¹ Francisco Costa-Cabral and Orla Lynskey, 'The Internal and External Constraints of Data Protection on Competition Law in the EU' (2015) LSE Law, Society and Economy Working Papers 25/2015 32.

⁷² EDPS (n 64) 22.

are responsible for regulation of the digital sector.⁷³ Said Digital Clearing House could serve as the main venue to discuss appropriate legal regimes for complaints related to online services, to harmonise law enforcement, and perhaps more importantly, to verify the existence of Component 1 and Component 2 and build a case accordingly.

In the Digital Clearing House or any other suitable channel, the relevant competition and data protection authorities (DPAs) must identify the data the processing of which is carried out unlawfully by the platform, and how such data is conferring upon the same an unlawful advantage that raises barriers to entry and lessens competition. In the same vein, the relevant competition and consumer protection authorities must identify online platforms' techniques and practices which, by deepening information asymmetries, aim at preserving the status quo in online markets (i.e. widespread consumer confusion and resignation about lack of privacy on the part of informed consumers).

Although difficult to achieve, collaboration between competition, data protection and consumer protection agencies is already taking place in the abuse of dominance proceedings commenced by the Bundeskartellamt against Facebook.⁷⁴

After having identified the unlawful data processing and unfair contract terms and commercial practices that distort the competitive process, the involved DPAs and consumer protection authorities must commence proceedings to establish the relevant infringements.

A decision establishing the data protection infringement (i.e. that the personal data at stake have been processed unlawfully) passed by a competent DPA or one lead supervisory authority on behalf of several DPAs of EU member countries pursuant to the provisions of Articles 60 *et seq.* of the GDPR will serve in stage two (i.e. in Article 102 TFEU proceedings) as conclusive evidence of the unlawfulness of the data processing and therefore, of the unlawfulness of any competitive advantage that might have been derived therefrom. Coordination between the lead supervisory authority (if applicable), the DPAs

⁷³ *ibid* 15.

⁷⁴ "The German regulator is conducting the proceeding in close contact with the competent data protection officers, consumer protection associations as well as the European Commission and the competition authorities of the other EU Member States". See Robert McLeod, 'Novel But a Long Time Coming: The Bundeskartellamt Takes on Facebook' (2016) 7 *Journal of European Competition Law & Practice* 367, 368.

and the relevant competition authority (for instance, the European Commission) may be arranged through the European Data Protection Board⁷⁵ and DG COMP.

Similarly, a decision passed by a competent consumer protection authority establishing the existence of unfair commercial practices and/or unfair terms in consumer contracts will serve in stage two as conclusive evidence of deception strategically devised and implemented to distort consumer demand for privacy-friendly services and undermine competition on this dimension. Collaboration efforts between consumer protection authorities in case of intra-Community infringements may be deployed through the Consumer Protection Cooperation Network,⁷⁶ which in turn could appoint an officer to act in liaison with the relevant competition authority.

Stage Two

Only after final decisions condemning data protection and consumer protection infringements are passed in the manner described above may Article 102 TFEU proceedings be commenced against the infringing platform, based on a close connection between such infringements and the infringer's dominant position in one or more relevant markets. Such decisions will be proof in Article 102 TFEU proceedings of the overall anticompetitive strategy of the relevant dominant undertaking to strengthen its dominant position and hinder the emergence of meaningful privacy-based competition.

It will be the task of the competition enforcer to prove that the relevant data protection and consumer protection infringements cause or are likely to cause harmful effects on competition, as described below.⁷⁷

⁷⁵ See generally Chapter VII GDPR.

⁷⁶ See generally Regulation (EC) 2006/2004 of the European Parliament and of the Council of 27 October 2004, on cooperation between national authorities responsible for the enforcement of the consumer protection laws (the Regulation on Consumer Protection Cooperation) OJ L 364/1.

⁷⁷ See below Section II.5.3.

4. Close Connection Between The Infringements And The Infringer's Dominant Position

To trigger Article 102 TFEU proceedings based on the existence of Component 1 and Component 2, a close connection between the data protection and consumer protection infringements and the creation, maintenance or strengthening of the infringer's dominant position must be established.

To this effect, it is necessary to look at the platform's business model. As seen in Chapter 2, data serves as an essential input to production, especially for advertisement-based platforms. These platforms are particularly likely to derive market power from actions that enable them to amass greater amounts of data to improve their services and offer new ones, as well as from actions that preserve consumer ignorance as to the privacy-related consequences arising from using platform services. For these platforms, "there may be a close link between the dominance of the company, its data collection practices and competition on the relevant markets."⁷⁸

Accordingly, multisided markets dominated by an advertising-based platform will be the primary candidates for the application of the HEA. However, nothing hinders the application of this approach to other data-intensive markets should the circumstances merit so. At any rate, the application of the HEA must be determined on a case-by-case basis.

5. Exclusionary Abuse

5.1 Theory of Harm

When a dominant online platform displays behaviour that amounts to Component 1 and Component 2, it engages in an overall anticompetitive strategy to maintain and/or strengthen its dominant position and prevent the emergence of meaningful privacy-based competition. In addition, such strategy may confer upon the platform the ability to leverage its dominance onto other markets. In this case, privacy and consumer protection

⁷⁸ Autorité de la Concurrence and Bundeskartellamt, 'Competition Law and Data' (2016) 24.

concerns fall within the scope of competition law, because the collection and use of personal data in violation of data protection law and/or through deceit and misleading practices in violation of consumer protection law increase the infringer's market power.⁷⁹

It is acknowledged that this type of abuse is novel, and that there are no precedents supporting it. However, competition law has already made infringements of Article 102 TFEU dependent on assessments under other fields of law. For example, in *AstraZeneca*,⁸⁰ the EU Courts had to determine whether specific behaviour consisting in the misuse of the patent system, not previously considered in EU case law, infringed Article 102 TFEU. The CJEU held that having recourse to highly misleading representations with the aim of leading public authorities into error (for the purposes of improperly obtaining exclusive rights) was “manifestly not consistent with competition on the merits and the specific responsibility on such undertaking not to prejudice, by its conduct, effective and undistorted competition”.⁸¹ The CJEU went on to conclude that it was an abuse “to lead the public authorities [to] wrongly [...] create regulatory obstacles to competition, for example by the unlawful grant of exclusive rights to the dominant undertaking.”⁸² In this case, an Article 102 TFEU infringement was established based on an assessment under IP law. By way of analogy, the HEA contemplates an infringement of Article 102 TFEU based on assessments under data protection and consumer protection law: certain infringements of these laws cause competition-distorting effects with exclusionary and exploitative components.

At any rate, Article 102 TFEU is an open-ended provision. As the CJEU has held, “[t]he list of abusive practices contained in [Article 102 TFEU] does not exhaust the methods of abusing a dominant position.”⁸³ As a result, any conduct that fulfils Article 102 TFEU's requirements is abusive, irrespective of whether it is included in its list or has been condemned in previous rulings.

⁷⁹ “[T]he rules of fair competition and the privacy rules can be violated by [...] commercial operations on the internet. Companies with market power can use this kind of conduct to entrench their market position”. Monopolkommission, ‘Special Report 68: Competition Policy: The Challenge of Digital Markets’ (2015) 117 <<http://www.monopolkommission.de/index.php/en/reports/special-reports/284-special-report-68>>.

⁸⁰ Case C-457/10 P, *AstraZeneca v Commission* [2012] ECLI:EU:C:2012:770.

⁸¹ *ibid* [98].

⁸² *ibid* [105].

⁸³ Case C-280/08 P, *Deutsche Telekom AG v Commission* [2010] ECR I-9555 [173].

It is established case law that a company in a dominant position engages in abusive conduct if it displays

“behaviour [...] which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.”⁸⁴

Therefore, two requirements must be met for a finding of abuse. Firstly, the very presence of the undertaking in question must have weakened the market structure. This requirement is met by establishing the existence of the dominant position. Secondly, the undertaking must engage in conduct which (a) departs from normal competition (i.e. competition on the merits) and which (b) restricts competition in one or more relevant markets.

When confronted with novel types of abuses, EU Courts have required actual or potential anticompetitive effects (instead of assuming such effects).⁸⁵ For example, in *AstraZeneca*, after holding that the dominant firm’s conduct was contrary to competition on the merits, the CJEU held that this conduct did not constitute an abuse in itself; rather, an anticompetitive effect on the market was required, although “such an effect does not necessarily have to be concrete, and it is sufficient to demonstrate that there is a potential anti-competitive effect”.⁸⁶

Chapter 3 specifies the manner in which dominance must be assessed in online platform markets. Consequently, the two following sections focus on the second requirement above: the departure from normal competition (II.5.2) leading to the lessening of effective competition (II.5.3).

⁸⁴ Case 85/76, *Hoffmann-La Roche & Co v Commission* [1979] ECR 461 [91].

⁸⁵ Alison Jones, ‘Standard-Essential Patents: FRAND Commitments, Injunctions and the Smartphone Wars’ (2014) 10 European Competition Journal 1, 20.

⁸⁶ *AstraZeneca v Commission* (n 80) [112].

5.2 Departure from Normal Competition

In *Post Danmark I*, the CJEU held:

“Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation [...]

Article [102 TFEU] applies, in particular, to conduct of a dominant undertaking that, through recourse to methods different from those governing normal competition on the basis of the performance of commercial operators, has the effect, to the detriment of consumers, of hindering the maintenance of the degree of competition existing in the market or the growth of that competition.”⁸⁷

The concept of ‘competition on the merits’ has been widely criticised for being too vague and devoid of substantive meaning.⁸⁸ It is submitted, however, that one discerning line to narrow down the types of conduct that are admissible to protect a dominant firm’s commercial interest could be found in the violation of other laws that leads to a competitive advantage:

Component 1: The overall strategy of the largest online platforms analysed in this work is to collect and process as much data as possible, through any lawful or unlawful means. Confronted with the decision of whether or not to abide by the applicable data protection laws, some platforms commonly choose to infringe their provisions, as the fines are negligible relative to the rewards. More data derives in more precision when targeting ads to users, which in turns attracts more advertisers and therefore more advertising revenues. Accordingly, they draft their privacy policies in such a way that by default consumers consent to the processing of their personal data for myriad of purposes they cannot envision when they sign up for an online platform service. These default settings do not meet the requirements for consent to be informed and specific, and consequently, there is no valid consent and no legal basis for the processing of personal data. Online platforms with these default settings violate the fundamental right of individuals to data protection, thereby collecting and processing more personal data than they are legally entitled to, and

⁸⁷ Case C-209/10, *Post Danmark A/S v Konkurrenceradet (Post Danmark I)* [2012] ECR I-0000 [22–24].

⁸⁸ Wolf Sauter, *Coherence in EU Competition Law* (OUP 2016) 110–111; Ekaterina Rousseva, ‘The Concept of “objective Justification” of an Abuse of a Dominant Position: Can It Help to Modernise the Analysis under Article 82 EC’ (2006) 2 The Competition Law Review 27, 30.

by doing so they increase their data-driven market power in breach of data protection law. When the data a platform unlawfully processes is of great competitive significance, as said data entrenches its monopoly power or enables it to leverage its market power onto adjacent markets, the platform raises barriers to entry and lessens competition. This *modus operandi* is inconsistent with ‘competition on the merits’.

Component 2: Consumers’ privacy concerns and privacy-based competition in general are antithetical to the advertisement-based business model of the largest online platforms. Accordingly, these platforms devise their privacy policies in a way that makes it really difficult for consumers to understand the privacy-related consequences arising from the use of their services and to prevent their personal data from being collected and shared with third parties (advertisers and application developers). Platforms have an incentive to keep consumers ignorant and confused with regard to their data processing practices, as this state of affairs prevents the emergence of services that can threaten their advertising-based business model. To preserve confusion and ignorance and give the false perception of control over one’s personal data, online platforms resort to unfair terms in consumer contracts and engage in unfair commercial practices to make the management of their services’ privacy settings as confusing as possible, in violation of EU consumer protection provisions. This *modus operandi* cannot be characterised as ‘competition on the merits’ either.

The manner in which the existence of Component 1 and Component 2 can be established is explained below.

5.2.1 Component 1

DPA and competition authorities must work together to identify scenarios under which unlawful collection and processing of data cause anticompetitive effects. To this effect, they must determine in a specific case (i) the kind of data that is likely to contribute to the creation or strengthening of a dominant position in one or more relevant markets, and (ii) the fact that such data is or has been collected and processed unlawfully.

To illustrate each of these elements, this Section will use Google as example.

5.2.1.1 Data Likely to Contribute to the Creation or Strengthening of a Dominant Position

1) General

Not all types of data will enable a platform to attain or strengthen a dominant position. After all, “the relevance of some kind of data may vary substantially with respect to different business models and data that are relevant for the provision of one service may be irrelevant for the provision of another.”⁸⁹ To exemplify this point, two different types of data are discussed below.

In 2014, Google paid USD3.2 billion to acquire Nest Lab, a manufacturer of thermostats and carbon monoxide detectors, and USD555 million to buy Dropcam, a producer of a home security camera. These acquisitions were most likely data-driven. The products of the acquired companies are IoT smart appliances. For example, by using their sensors, Nest Lab’s thermostats and CO detectors over time learn to turn on and off depending on whether there is somebody in the house, and as the appliances learn more about user habits and communicate with each other through the Nest network, they build “an aggregate picture of human behaviour, [anticipating] what we want before we know”.⁹⁰ In turn, Dropcam enabled Google to capture more highly sensitive information about what takes place in its users’ homes.⁹¹

At the time of the abovementioned acquisitions by Google, voices were raised in the sense that Google was after the data collected from people’s homes “to better target its advertising”.⁹² This is likely to be the case. After all, Google is ultimately an advertising company which has disclosed to the US Securities and Exchange Commission that it intends in the near future to serve ads and other content on *inter alia* refrigerators, car

⁸⁹ Nils-Peter Schepp and Achim Wambach, ‘On Big Data and Its Relevance for Market Power Assessment’ (2015) 7 Journal of European Competition Law & Practice 120, 121.

⁹⁰ Marcus Wohlsen, ‘What Google Really Gets Out of Buying Nest for \$3.2 Billion’ (*Wired*, 2014) <<https://www.wired.com/2014/01/googles-3-billion-nest-buy-finally-make-internet-things-real-us/>>.

⁹¹ Steve Lohr, ‘Google’s Nest to Acquire Dropcam for \$555 Million’ (2014) *Bits Blog* <<https://bits.blogs.nytimes.com/2014/06/20/googles-nest-to-acquire-dropcam-for-555-million/>>.

⁹² John Ribeiro, ‘Google’s Acquisition of Nest Gets US FTC Clearance’ (2014) *PC Advisor* <<http://www.pcadvisor.co.uk/feature/digital-home/googles-acquisition-of-nest-gets-us-ftc-clearance-3500752/>>.

dashboards, thermostats, glasses and watches.⁹³ The acquisition of Nest Labs and Dropcam enabled Google to have devices on which ads can be served, and also to collect more personal data (such as offline behaviour at home) for better profiling, ad targeting and other purposes.

Now consider locational data. Its significance for Google became apparent in a patent infringement and restraint of trade lawsuit filed in the U.S. by Skyhook against Google.⁹⁴ Skyhook, a provider of location services once used by competitors of Google such as Apple and MapQuest, announced in 2010 a partnership with Motorola (theretofore independent from Google), under which Skyhook was to provide location services to Motorola's phones that used Android OS, to the detriment of Google's location services. Skyhook contended that Google had leveraged its control of Android to convince OEMs to choose Google's location services over Skyhook's.⁹⁵ Internal emails of Google revealed how important the Wi-Fi locational data was for it:

“No one at Google was aware of this until Skyhook published their press release [referring to Skyhook's partnership with Motorola]. We absolutely do care about this because we need wifi data collection in order to maintain and improve our wifi location service (especially after having Street View wifi data collection discontinued). Our wifi location database is extremely valuable to Google...

It's sad to see first Apple, now Motorola moving away from us, which means less collection for us.

I cannot stress enough how important Google's wifi location database is...”
(emphasis added).⁹⁶

One could wonder why was locational data so important to Google. After all, Google Maps and Google's Wi-Fi location services are priced at zero, and included as an add-on to Google's free Android OS. The answer, again, lies in advertising. As Stucke and Grunes note:

⁹³ Google Inc., ‘Letter to the Securities and Exchange Commission’ (2013) <<https://www.sec.gov/Archives/edgar/data/1288776/000128877613000074/filename1.htm>>.

⁹⁴ *Skyhook Wireless, Inc v Google, Inc*, No 2010-03652-BLS1 (Superior Court Civil Action 2011).

⁹⁵ *ibid.*

⁹⁶ The emails were made public by Business Insider. See Dan Frommer, ‘UNSEALED: Here Are 418 Pages Of Documents From Google's Skyhook Wireless Lawsuit’ (2011) *Business Insider* <<http://www.businessinsider.com/google-skyhook-documents-2011-5>>.

“[Geo]-location and mapping data are key for advertisers. Using users’ geo-location data, Google [...] can track where people are and influence where they will go by providing them information on nearby advertisers (such as promoting a nearby ‘Taco Bell’). The first step is to target users by their location. The next step is to combine all the data on the user (tastes, search history, etc) to target him with behavioural ads.”⁹⁷

2) *Analysis*

To determine whether certain data can contribute to the attainment or strengthening of a dominant position, it is necessary to focus on one or more specific online markets. As explained in Chapter 3,⁹⁸ Google is dominant in the search and search advertising markets. To maintain its lead in this multisided market, Google must render more relevant search results to users and more targeted advertisements for advertisers. One strategy Google has deployed to this effect is the personalisation of its search services. Personalisation of services has a dissuasive effect on multi-homing, leads to the consolidation of user habits,⁹⁹ increases switching costs and lock-in effects, and therefore tends to raise barriers to entry and enhance dominance.

With personalised search, when a user enters a search query, the search results are based not only on the relevance of each webpage to the search term, but also on other factors¹⁰⁰ such as search history, web history, social network interactions, and location.¹⁰¹

The factor ‘location’ is of the utmost relevance for search queries that are the easiest to monetise. When a user types ‘restaurants near me’ on Google or Google Maps, the following screens are shown:

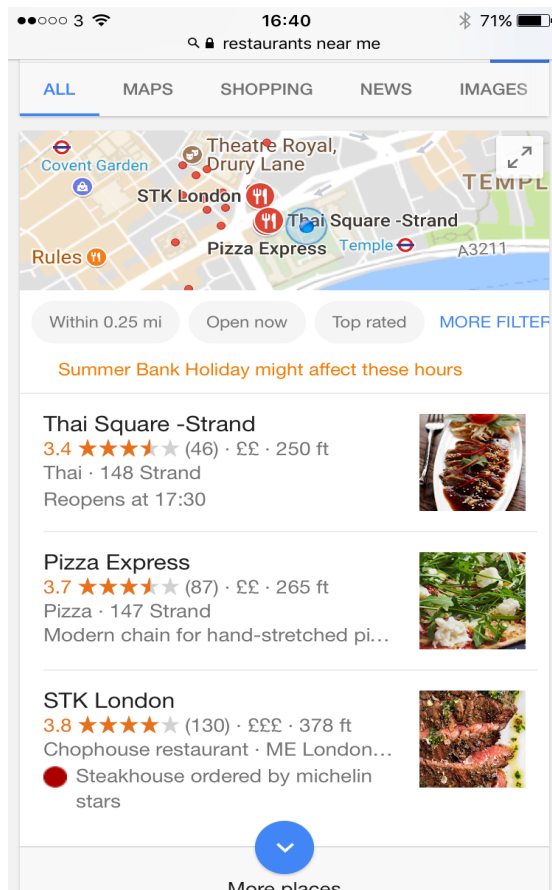
⁹⁷ Stucke and Grunes (n 57) 93.

⁹⁸ See Chapter 3 Section II.5.1.

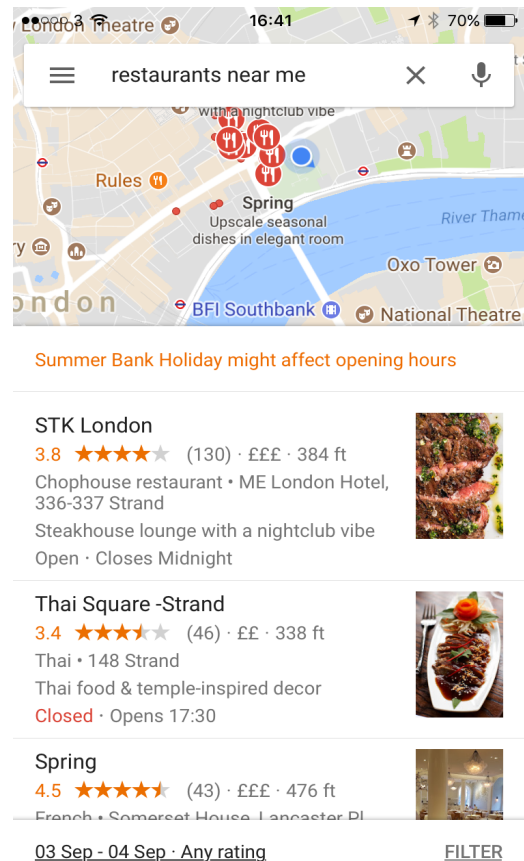
⁹⁹ Boris P Paal, ‘Internet Search Engines and Antitrust Law’ (2016) 11 *Journal of Intellectual Property Law & Practice* 298, 301.

¹⁰⁰ Bryan Horling, ‘Personalized Search for Everyone’ (2009) *Official Google Blog* <<https://googleblog.blogspot.com/2009/12/personalized-search-for-everyone.html>>.

¹⁰¹ Portent Team, ‘Guide to Personalized Search Results’ (2014) *Portent* <<https://www.portent.com/blog/seo/personalized-search-results.htm>>.



Google.co.uk



Google Maps

As can be seen, a list of targeted advertisements based entirely on the user's location is rendered.

Now then, consider the type of data that is available to Google as a result of the acquisition of Nest Labs and Dropcam, and the type of data to which Google has access via Google Maps and Android. The first type of data consists mostly of 'offline' behaviour and activities of people in their respective homes. The significance of such data for the provision of search and search advertising is likely to be minimal. Conversely, the data gathered via Google Maps and Android is of the essence for the personalisation of search results and the provision of targeted advertising based on users' specific location. As one analyst notes, "[t]he better Google's data is, the more its ads are worth — a strong incentive for continuing to collect and store exact location data."¹⁰² The statements included in Google's internal emails quoted above make a lot of more sense against this

¹⁰² Russell Brandom, 'Police Are Filing Warrants for Android's Vast Store of Location Data' (2016) *The Verge* <<http://www.theverge.com/2016/6/1/11824118/google-android-location-data-police-warrants>>.

background.¹⁰³ Control of Google Maps and Android secures an unparalleled flow of locational data that Google can use to extend its dominance in its core business (search and search advertising) and expand onto neighbouring markets.¹⁰⁴

5.2.1.2 Unlawful Collection and Processing of Data

The processing of personal data requires a legal basis. Data processed without legal basis is a serious violation of data protection law.¹⁰⁵ Google has argued¹⁰⁶ that it processes personal data based on (i) unambiguous consent of the data subjects, (ii) processing necessary for the performance of a contract, and (iii) processing necessary for the purposes of the legitimate interests of the controller.

1) *Consent*

(a) Notices on Mobile Devices

Consent only exists when it is freely given, unambiguous, informed and specific.¹⁰⁷ In particular, with regard to the ‘informed’ requirements, subjects of locational data must be previously informed about the identity of the controller, the purposes of the processing, the type of location data processed, the duration of the processing, whether the data will be transmitted to a third party, the right of access to and the right to rectify the data, the right to withdraw consent or temporarily refuse the processing of such data, and the right to cancel the data.¹⁰⁸

With regard to the ‘specific’ requirement, the A29WP has observed:

¹⁰³ See above text accompanying footnote 96.

¹⁰⁴ For example, geolocation and mapping data are of the essence for the driverless cars business in which Google has been investing heavily recently. See Ariel Ezrachi and Maurice Stucke, *Virtual Competition* (Harvard University Press 2016) 152.

¹⁰⁵ Article 83 No. 5 literal a) GDPR.

¹⁰⁶ Dutch DPA, ‘Investigation into the Combining of Personal Data by Google, Report of Definitive Findings’ (2013) 20

<https://autoriteitpersoonsgegevens.nl/sites/default/files/downloads/mijn_privacy/en_rap_2013-google-privacypolicy.pdf>.

¹⁰⁷ See above Section I.2.

¹⁰⁸ Article 29 Data Protection Working Party, ‘Opinion on the Use of Location Data with a View to Providing Value-Added Services 2130/05/EN WP 115’ (2005) 4–5.

“Purposes must be specific. This means that – prior to, and in any event, no later than the time when the collection of personal data occurs – the purposes must be precisely and fully identified to determine what processing is and is not included within the specified purpose and to allow that compliance with the law can be assessed and data protection safeguards can be applied.”¹⁰⁹

As a consequence, a ‘general agreement’ of the data subject cannot constitute valid consent, regard being had to the sensitivity of the processing of location data, which “involves the key issue of the freedom to come and go anonymously”.¹¹⁰ Accordingly, the A29WP has held:

“To the extent that developers of operating systems and other information society services themselves actively process geolocation data, (for example when they gain access to location information from or through the device) they must [...] seek the prior informed consent of their users. It must be clear that such consent cannot be obtained freely through mandatory acceptance of general terms and conditions, nor through opt-out possibilities.”¹¹¹ (emphasis added)

Similarly, in Opinion WP115 on the use of location data with a view to providing value added services, the A29WP contended:

“[The] definition [of consent] explicitly rules out consent being given as part of accepting the general terms and conditions for the electronic communications services offered.”¹¹² (emphasis added)

Bearing in mind the above, Google’s notices to render consent for the processing of location data valid will be analysed. The French Data Protection Authority (CNIL) has identified a least eight different purposes for the combining of personal data collected from Google’s services:

¹⁰⁹ Article 29 Data Protection Working Party, ‘Opinion 03/2013 on Purpose Limitation’ (2013) 39.

¹¹⁰ Article 29 Data Protection Working Party (n 108) 3.

¹¹¹ Article 29 Data Protection Working Party, ‘Opinion 13/2011 on Geolocation Services on Smart Mobile Devices 881/11/EN WP 185’ (2011) 14.

¹¹² Article 29 Data Protection Working Party (n 108) 5.

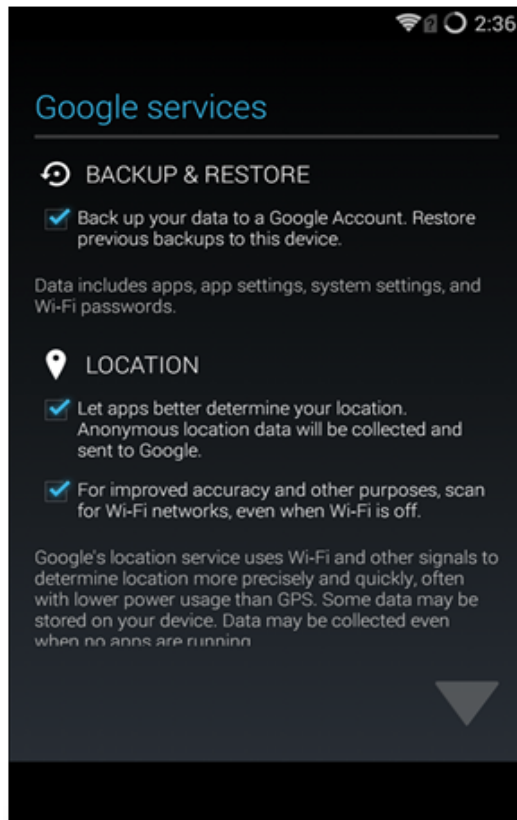
- The provision of services for which data are combined at the request of users (as in the case of Gmail or Calendar);
- The provision of services requested by the user in which data are combined without the user needing to know the data processing operation (for example, personalised search results);
- Security purposes;
- Product development and marketing innovation purposes;
- The provision of the Google Account;
- Advertising purposes;
- Website analytics; and
- Academic research.¹¹³

Therefore, location data may be lawfully collected and processed by Google provided that the consent it obtains from users is unambiguous, freely given, informed and specific in respect of each of the purposes listed above.

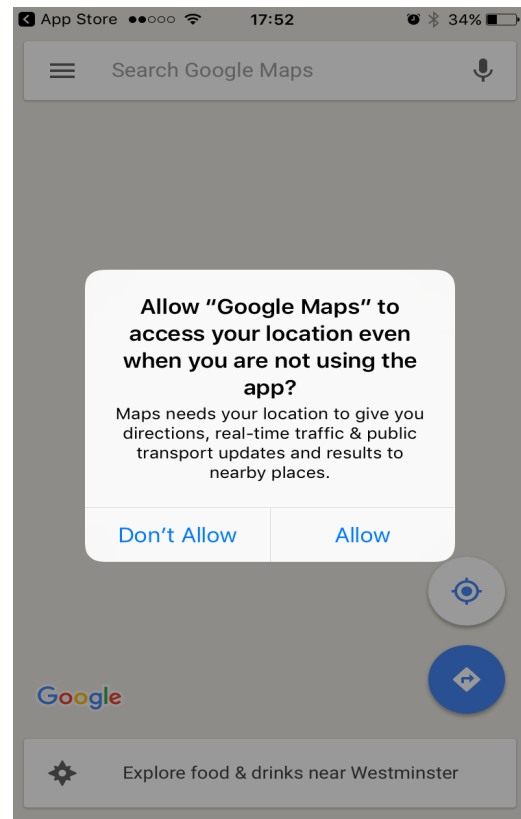
Now then, when a user sets up a new Android device or installs any Google app (such as Google Maps) on an iOS device, the user is prompted to share locational data:¹¹⁴

¹¹³ Commission Nationale de L'informatique et des Libérés (CNIL), 'Appendix: Google Privacy Policy: Main Findings and Recommendations' (2012) <https://www.cnil.fr/sites/default/files/typo/document/GOOGLE_PRIVACY_POLICY-_RECOMMENDATIONS-FINAL-EN.pdf>.

¹¹⁴ Alan Henry, 'PSA: Your Phone Logs Everywhere You Go. Here's How to Turn It Off' (2013) *Lifehacker* <<http://lifehacker.com/psa-your-phone-logs-everywhere-you-go-heres-how-to-t-1486085759>>.



Android notice



iOS notice

Based on these notices, Google says that users have to opt-in for location data collection.¹¹⁵ However, these notices are insufficient to give rise to valid consent, and Google cannot process location data under such notices for the purposes specified above. At best, the iOS notice is sufficient to give rise to consent for the processing of personal data necessary for the functioning of the digital map ('Maps needs your location to give you directions, real-time traffic & public transport updates and results to nearby places'). The Android notice, in turn, is particularly vague as to when and for which purposes location data are collected ("Let apps better determine your location... Data **may** be collected even when no apps are running"). Additionally, the Android notice informs that "anonymous location data" are collected, but that statement is false: location data have a unique identifier linked to an individual's phone, for which reason said individual can be readily identified.¹¹⁶ Consequently, such data are personal data, and requires valid consent (or other legal basis) for their processing.

¹¹⁵ See Jason Kincaid, 'Google Responds To Smartphone Location Tracking Uproar, Says Android Is Opt-In' (2011) *TechCrunch* <<http://social.techcrunch.com/2011/04/22/google-responds-to-smartphone-location-tracking-uproar-says-android-is-opt-in/>>.

¹¹⁶ Julia Angwin and Jennifer Valentino-DeVries, 'Apple, Google Collect User Data' (2011) *Wall Street Journal* <<http://www.wsj.com/articles/SB10001424052748703983704576277101723453610>>.

In 2012 Google announced the introduction of a new privacy policy that would encompass all the services Google offers, replacing the previous individuals policies that governed each service. Said privacy policy¹¹⁷ governs the collection and processing of location data. Therefore, in order to get informed on Google's data processing operations involving location and any other type of personal data, users need to delve into said privacy policy. Thus, the understanding of users as to the consequences of consenting to the processing of location data takes place after they actually give their consent (if they decide to read the privacy policy afterwards), unless they withhold their acceptance, read Google's overarching policy, and then give their consent to the notices above, which is a rather unlikely scenario. As a result, the consent obtained by Google does not meet the 'specific' and 'informed' requirements, and therefore is invalid. Any and all data processed based on such consent are unlawfully collected and processed.

(b) The 2012 Google Privacy Policy Amendment

As explained above, in 2012 Google merged the privacy policies of all of its services into one unique overarching policy. Since Google's services are highly popular amongst EU citizens, this change was likely to affect the data protection rights of a large amount of individuals in the EU. The A29WP established a task force composed of six DPAs, led by the CNIL, to carry out an 'examination' of the lawfulness of such privacy policy amendment. Since the A29WP had no investigatory and enforcement powers under the DPD, this process was essentially informal, and ended up in separate investigations conducted under national laws by the DPAs participating in the task force. All of the DPAs composing the task force found that Google breached the data protection laws of their respective countries.¹¹⁸

¹¹⁷ Google Inc., 'Privacy Policy – Privacy & Terms – Google' <<https://www.google.com/policies/privacy/>>.

¹¹⁸ See ICO, 'Google to Change Privacy Policy after ICO Investigation' (2016) <<https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2015/01/google-to-change-privacy-policy-after-ico-investigation/>>; Agencia Española de Protección de Datos, 'Agencia Española de Protección de Datos Sanciona a Google Por Vulnerar Gravemente Los Derechos de Los Ciudadanos' (2013) <http://www.agpd.es/portalwebAGPD/revista_prensa/revista_prensa/2013/notas_prensa/news/2013_12_19-ides-idphp.php>; Garante per la Protezione dei Dati Personali, 'Decision Setting Forth Measures Google Inc. Is Required to Take to Bring the Processing of Personal Data under Google's New Privacy Policy into Line with the Italian Data Protection Code' (2014) <<http://www.garanteprivacy.it/web/guest/home/docweb/-/docweb-display/docweb/3295641>>; Commission Nationale Informatique et Libertés, 'The CNIL's Sanctions Committee Issues a 150 000 € Monetary Penalty to GOOGLE Inc. | CNIL' (2014) <<https://www.cnil.fr/fr/node/15624>>; Autoriteit

In its investigation, the task force set by the A29WP distinguished between three types of Google users: authenticated users (signed in with a Google account), unauthenticated users (people using services like Search without a Google account) and passive users (people visiting third party websites with Google cookies).

Google contented that it obtains consent from authenticated users by virtue of their acceptance to the 'Terms of Service and Privacy Policy' by ticking a box; for unauthenticated users, this acceptance would follow from the fact that they continue using the website, as such continued use constitutes acceptance according to Google's Terms of Service. Google did not put forward any legal ground for the processing of personal data of passive users.

In its privacy policy, Google explains that it may combine data from various services:

“We use the information we collect from all of our services to provide, maintain, protect and improve them, to develop new ones and to protect Google and our users. We also use this information to offer you tailored content – like giving you more relevant search results and ads...

We may combine personal information from one service with information, including personal information, from other Google services – for example, to make it easier to share things with people you know.”

The DPAs comprising the task force concluded that the aforementioned purposes are not specific and do not detail properly the manner in which personal data is processed.¹¹⁹ In this connection, the Dutch DPA held:

“[P]eople who decide to deliberately use Google services (regardless of whether they do so as authenticated or unauthenticated users) must be able

Persoonsgegevens, 'CBP Issues Sanction to Google for Infringements Privacy Policy' (2014) <<https://autoriteitpersoonsgegevens.nl/en/news/cbp-issues-sanction-google-infringements-privacy-policy>>; 'Google Ordered by German Authority to Change Privacy Practices' (2015) *PCWorld* <<http://www.pcworld.com/article/2907612/google-ordered-by-german-authority-to-change-privacy-practices.html>>.

¹¹⁹ 'Google gives incomplete or approximate information about the purposes and the categories of data collected. The Privacy Policy is a mix of particularly wide statements and of examples that mitigate these statements and mislead users on the exact extent of Google's actual practices. Additional information is available in in-product privacy notices, the Help Center or blogs but the information available in these documents is inconsistent between the different sources or spoken languages, can be changed at any moment and is sometimes difficult to understand.' Commission Nationale de L'informatique et des Libérés (CNIL) (n 113).

to understand in advance for what purposes Google collects the data and consequently be given control over whether they want to allow their data to be collected for those specific purposes. The purpose cannot be so vague or broad that during the collection process it cannot provide any framework against which it can be tested whether the data are necessary for that purpose or not...

[N]either users nor regulators can automatically conclude from the purpose specification [of Google's privacy policy...] that Google combines and processes all sorts of data originating from and about the use of various Google services for purposes which, from the user perspective, are as diverse as the display of personalised ads, product development or the personalisation of requested services based on information from other services. The example added by Google, *'for example to make it easier to share things with people you know'*, pertains to authenticated users and does not point out the fact that Google itself combines the data collected from all three types of users for its own purposes."¹²⁰

Google's privacy policy also states:

"We use information collected from cookies and other technologies, like pixel tags, to improve your user experience and the overall quality of our services... For example, by saving your language preferences, we'll be able to have our services appear in the language you prefer."

In this connection, the Dutch DPA held:

"The average user cannot gather from Google's cited purposes of improving the user experience and the overall quality of the services that Google can combine data from the contents of e-mail and documents with data that Google gathers on the use of other services, including geolocation services used on a smartphone with the Android operating system, to tailor services and to display targeted ads."¹²¹

Finally, with regard to the use of location details, the Dutch DPA concluded:

"Google can use the content of search queries to determine an implicit (interest in a) location and can use GPS signals, device sensors, WiFi access points and IDs from radio towers to estimate the location. Because Google does not otherwise delimit or explain the use of the location details, the average Internet user cannot determine the nature and scope of the data processing."¹²² (emphasis added)

¹²⁰ Dutch DPA (n 106) 62.

¹²¹ *ibid* 63.

¹²² *ibid* 73.

Thus, as the purposes defined for data collection and processing by Google are ambiguous and not specific enough, the ‘consent’ Google obtains from users is neither informed nor specific. Therefore, Google cannot resort to this legal ground to process locational and other types of personal data.¹²³

2) *Necessity for the Performance of a Contract*

Android users must enter into a contract with Google to obtain permission to use the Android OS.¹²⁴ Google Maps users can be either authenticated (with Google account) or unauthenticated users. From a legal perspective, only authenticated users can be said to have entered into a contract with Google, as only in this case there is an intention from both parties to be legally bound. Accordingly, an argument can be made in the sense that this legal ground could, in principle, only apply to Android and Google Maps authenticated users, as unauthenticated users have not entered into a contract in a strictly legal sense.¹²⁵

Nonetheless, irrespective of whether a binding contract comes into existence as a result of the use of the Google Maps website or app (as would be the case for unauthenticated users), the core issue in connection with this legal ground is whether or not the processing of location data is necessary for the performance of a contract, be it the license agreement to use Android OS, the contract for the opening of a Google Account or other agreement.

According to the CJEU, “the concept of necessity [...] has its own independent meaning in Community Law”.¹²⁶ Indeed, ‘necessity’ is the second prong of the proportionality principle of EU law. The ‘necessity’ prong asks: “is the measure concerned necessary

¹²³ “Google does not satisfy the criterion ‘informed’. The different purposes for which data are combined are not fully described, or are at least not described clearly enough in the [privacy policy]... because of this lack of information, data subjects cannot estimate the nature and scope of the data processing, for what purposes Google combines personal data relating to them, and to what extent tracking cookies play a role in this... Google also does not satisfy the criterion of ‘specific’ because it does not ask for consent for the various data processing operations for the [...] purposes investigated.” *ibid* 84–85.

¹²⁴ Android Team, ‘Content License’ (2017) *Android Open Source Project* <<https://source.android.com/license.html>>.

¹²⁵ However, Google has stated that its Terms of Service give rise to a contractual relationship with all users of Google’s services, regardless of whether or not they are authenticated. See Dutch DPA (n 106) 85.

¹²⁶ Case C-524/06, *Heinz Huber v Bundesrepublik Deutschland* [2008] ECLI:EU:C:2008:724 [52].

(indispensable) to realising the goals it is aimed at meeting?”¹²⁷ In the case at hand, the natural question to ask is: is the processing of personal data necessary for the proper performance of a contract? The processing of personal data to perform a contract is not necessary unless such processing is of the essence and unavailable to complete the transaction.¹²⁸ It follows that processing of personal data that is useful or facilitates the performance of a contract, or which renders such performance more profitable for the data controller, is not necessary. As the A29WP has contended:

“[T]he fact that some data processing is covered by a contract does not automatically mean that the processing is necessary for its performance. For example, Article 7(b) is not a suitable legal ground for building a profile of the user’s tastes and lifestyles choices based on his click-stream on a website and the items purchased. This is because the data controller has not been contracted to carry out profiling, but rather to deliver particular goods and services...

It is important to determine the exact rationale of the contract, i.e. its substance and fundamental objective, as it is against this that it will be tested whether the data processing is necessary for its performance.”¹²⁹

The substantial objective of the contract into which users enter with Google in respect of their Android devices is to govern the terms and conditions under which users can use the Android OS, that is, the software that allows users to operate said devices. Accordingly, it can be safely argued that relentless and pervasive collection of location data to personalise search ads and results, to display personalised ads to users whenever they go on the Internet, or for any of the purposes identified by the task force set by the A29WP to investigate Google’s 2012 Privacy Policy Amendment, is not necessary for the performance of said contract. Granted, collection of location data can improve the functionality of some of the apps installed in the relevant Android device, but it is an entirely different thing to sustain that the contract cannot be properly performed without the processing of location data for the purposes above.

A somewhat similar argument can be made in respect of Google Maps’ unauthenticated and authenticated users. With regard to the former type of users, aside from the issue of

¹²⁷ Lee A Bygrave and Dag Wiese Schartum, ‘Consent, Proportionality and Collective Power’, in Serge Gutwirth, Yves Poullet, Paul De Hert, Cécile de Terwangne and Sjaak Nouwt (eds), *Reinventing Data Protection?* (Springer 2009).

¹²⁸ Christopher Kuner, *European Data Protection Law: Corporate Regulation and Compliance* (OUP 2007) 234–235.

¹²⁹ Article 29 Data Protection Working Party, ‘Opinion 06/2014 on the Notion of Legitimate Interests of the Data Controller under Article 7 of Directive 95/46/EC 844/14/EN WP 217’ (2014) 16–17.

whether or not a contract arises from the use of Google Maps website or app, the fact that someone uses the service does it make it necessary to use users' location data to personalise search ads and results, display ads or for any of the other purposes referred to above. Whilst the processing of location data might be necessary to provide the Google Map service (for instance, to give public transport updates and show nearby locations) and therefore perform the 'contract', processing of data for purposes ancillary to the provision of the Maps service itself is not. Therefore, Google needs to resort to a different legal ground to process the location data for any of such purposes.

Similarly, with regard to authenticated users, regardless of any contractual arrangement, combining location data and data that users provide to Google, such as emails from Gmail and purchasing behaviour, in order to tailor search results, or combining data on and from the use of various Google services (including Google Maps) with data on visits to third-party websites in order to tailor display ads, is neither necessary nor proportionate to provide the Google Maps service or any of the other services Google offers (that is, to perform the contract). As the Dutch DPA held:

“The combining of data on and from multiple services for [the purposes it investigated] is [...] aimed at serving Google's general business interest, specifically: to obtain information on the use of its own services and record and analyse visits to third-party websites (including advertisements) so that it can improve the quality of its services and develop new services based on data already collected.”¹³⁰

3) Necessity for the Legitimate Interests of the Data Controller

This legal ground entails a balancing test: the data controller may rely upon this legal ground where the data processing is necessary for its legitimate interests, provided that such interests are not overridden by the data subject's interests or fundamental rights.¹³¹

A first question to ask in the case at hand is whether Google has a legitimate interest to process users' location and other types of personal data. Google could invoke its “freedom to conduct a business in accordance with Union law and national laws and

¹³⁰ Dutch DPA (n 106) 86.

¹³¹ See generally Paolo Balboni, Daniel Cooper, Rosario Imperiali and Milda Macenaite, 'Legitimate Interest of the Data Controller New Data Protection Paradigm: Legitimacy Grounded on Appropriate Protection' (2013) 3 International Data Privacy Law 244.

practices”, as enshrined in the Charter.¹³² As a matter of fact, the A29WP has held that marketing and advertising are activities conducted in accordance with a legitimate interest.¹³³ However, Google cannot exercise such freedom without constraints; rather, its legitimate interests must be balanced against the interest and fundamental rights of the data subjects.

The controller’s legitimate interest may only prevail when the data processing is ‘necessary’. The enquiry into whether processing is necessary, in turn, is divided into two steps: whether the data processing observes the (i) subsidiarity and (ii) proportionality principles.

The manner in which Google combines all sorts of personal data from various services, including location data, for its own commercial benefit, is not consistent with subsidiarity requirements. In this connection, the intrusiveness of data collection is a factor to consider. After a user agrees to location data sharing on an Android device or on Google Maps on an iOS device, location data is collected and sent to Google’s services even when apps are not running. This data sharing allows Google to build a persistent and extremely accurate portrait of where a user has travelled with his phone (and therefore where the user has been), to the extent that the FBI has requested from Google location data to place a suspect in a crime scene.¹³⁴ Put in other words, after a user agrees to share his location data, Google always know where the user is (provided the user has the phone with him). There are certainly less intrusive ways in which Google could pursue its legitimate interests. As the A29WP has contended:

“Assessing impact [on the data subjects’ fundamental rights] may involve considering [...] whether large amounts of personal data are processed or combined with other data (e.g. in case of profiling [...]) Seemingly innocuous data, when processed on a large scale and combined with other data may lead to inferences about more sensitive data [...]

Depending on the nature and impact of these predictions, this may be highly intrusive to the individual’s privacy.”¹³⁵

¹³² Article 16 of the Charter.

¹³³ Article 29 Data Protection Working Party (n 129) 25.

¹³⁴ Brandom (n 102).

¹³⁵ Article 29 Data Protection Working Party (n 129) 39.

In addition, large-scale data collection is inconsistent with the proportionality principle.¹³⁶ Google is able to combine location data with all sorts of other data collected under its services, without the user knowing specifically what kind of data about him are processed, and when or under what circumstances the processing takes place. Said data processing has major consequences for the fundamental rights of the users of Google's services. As the Dutch DPA argued:

“[T]he data controller must take into account the impact [its] services will have on the individual privacy of the data subjects. The data controller must build in safeguards to prevent any disproportionate disadvantage [...]

The way in which Google may combine all sorts of data from various services, according to [its Privacy Policy], does not adequately demonstrate that a proportionate weighting of interests has taken place (proportionality principle).”¹³⁷

In view of the above, Google's legitimate interest in basing its business model on advertising does not comply with the requirements of subsidiarity and proportionality. Nonetheless, even if Google were able to demonstrate the necessity of the processing of specific personal data (i.e. location data), Google must consider whether its legitimate interests override the data subjects' interests and fundamental rights. In this second part of the analysis, the seriousness of the violation of the data subject's privacy is of paramount significance, as well as safeguards such as transparency and effective opt-outs for data subjects. According to the A29WP, factors to consider regarding the seriousness of the infringement are *inter alia* the sensitivity of the personal data, the way in which information is processed and the status of the controller and data subject.¹³⁸ The more sensitive the data is, the more the information combined, and the greater the imbalance of power between data controller and data subject, the greater the intrusion into the data subjects' privacy will be.

As noted above, location data is particularly sensitive, as it “involves the key issue of the freedom to come and go anonymously”.¹³⁹ On top of this, Google tracks location relentlessly. As one analyst noted:

¹³⁶ Christopher Barth Kuner, 'Proportionality in European Data Protection Law and Its Importance for Data Processing by Companies' (2008) 7 Privacy and Security Law Report 1615.

¹³⁷ Dutch DPA (n 106) 87.

¹³⁸ Article 29 Data Protection Working Party (n 129) 36.

¹³⁹ See above footnote 110.

“Android phones pair to Google accounts at the operating system level, so as long as Location History is enabled when the phone is first launched, location data can be collected even if you’ve never opened the Timeline tab. The result is a comprehensive location record, collected entirely in the background.”¹⁴⁰

In addition to the large-scale location data collection, it must be borne in mind that location data are combined with large amounts of other data that Google collects under the other services it offers. Data processing of this kind can lead to “uncanny, unexpected and sometimes inaccurate predictions, for example, concerning the behaviour personality of the individuals concerned”, which may be particularly intrusive into the data subjects’ privacy.¹⁴¹

Moreover, it must be noted that Google has an overwhelming bargaining power in respect of data subjects, largely due to the fact that there are no viable competitors offering more privacy-sensitive services. Consequently, it is an advantageous position to impose on data subjects “what it believes is in its ‘legitimate interest’”.¹⁴²

Last but not least, as explained above, Google is not transparent in the way it presents information to users about its data processing operations.¹⁴³ Based on Google’s privacy policy, users cannot conclude what type of data is collected, when data is collected, how data is combined, and for what purposes it is combined. Additionally, Google offers labour-intensive and partial opt-outs options for only some of the purposes investigated by the task force,¹⁴⁴ and oftentimes the opt-outs do not result in the termination of the data processing. For example, Google’s ‘Ads opt-out’ only prevents Google from showing users ‘interest-based ads’, but opting-out does not stop ads altogether, including ads based on users’ recent searches or general location.¹⁴⁵ Also, where cookie technology is not available (as is the case of mobile devices), interest-based ads ‘may’ still be shown, and users have to undertake laborious steps to effectively opt-out.¹⁴⁶ In the end, the opt-out does not prevent Google from tracking users, nor does it stop the underlying data

¹⁴⁰ Brandom (n 102).

¹⁴¹ Article 29 Data Protection Working Party (n 129) 36.

¹⁴² *ibid* 40.

¹⁴³ See above Section II.5.2.1.2, 1) *Consent*.

¹⁴⁴ For example, there is no opt-out for product development.

¹⁴⁵ Google Inc., ‘Opt out of Seeing Personalised Ads - Ads Help’ (2017) <<https://support.google.com/ads/answer/2662922?hl=en-GB>>.

¹⁴⁶ *ibid*.

processing; rather, it only prevents the showing of targeted ads under specific and limited circumstances. Furthermore, some opt-out tools result in significant loss of functionality. For instance, unauthenticated users can only opt-out from personalisation of search results on YouTube or Maps by refusing all the cookies in their browsers.¹⁴⁷

In view of the above, Google's legitimate interests to process personal data are largely overridden by its users' interests and fundamental rights, and therefore, it cannot rely on this legal ground for its locational data processing operations. This position is shared by the literature¹⁴⁸ and data protection regulators.¹⁴⁹

4) *Other Types of Unlawfully Acquired Data*

The analysis above focused on the importance of location data for search and search advertising services. However, the argument applies to any unlawfully collected data the processing of which is likely to increase a platform's dominant position. Consider Google's combination of YouTube data with data collected from other services. As a consequence of the 2012 Privacy Policy amendment, Google was able to combine YouTube data with data collected under any of its other services. This combination was not possible before under YouTube's privacy policy.¹⁵⁰ After the 2012 Privacy Policy amendment, Google was able to make its video recommendations based on users' search results, and render search results based on video viewing behaviour.¹⁵¹ With over 1 billion active users each month,¹⁵² 4,950,000,000 videos viewed everyday¹⁵³ and over 1 billion videos uploaded,¹⁵⁴ the amount of data that became available to Google to improve its

¹⁴⁷ Dutch DPA (n 106) 92.

¹⁴⁸ Bart van der Sloot and Frederik Zuiderveen Borgesius, 'Google and Personal Data Protection', in Aurelio Lopez-Tarruella (ed), *Google and the Law* (Springer 2012) 99; Elise Marie Leonore Moerel, 'Big Data Protection: How to Make the Draft EU Regulation on Data Protection Future Proof' (2014) 58 <http://www.debrauw.com/wp-content/uploads/NEWS%20-%20PUBLICATIONS/Moerel_oratie.pdf?utm_source=Mondaq&utm_medium=syndication&utm_campaign=inter-article-link>.

¹⁴⁹ Dutch DPA (n 106) 93; Article 29 Data Protection Working Party (n 129) 25–26.

¹⁵⁰ Dutch DPA (n 106) 27.

¹⁵¹ For example, search results can be partly based on viewing behaviour, or personalised ads may be shown based on the content of channels to which users are subscribed on YouTube.

¹⁵² Tech Team, 'YouTube Stats: Site Has 1 Billion Active Users Each Month' (2013) *Huffington Post* <http://www.huffingtonpost.com/2013/03/21/youtube-stats_n_2922543.html>.

¹⁵³ 'YouTube Company Statistics' (2017) *Statistic Brain* <<http://www.statisticbrain.com/youtube-statistics/>>.

¹⁵⁴ 'How Many Videos Have Been Uploaded to YouTube?' (2015) *Quora* <<https://www.quora.com/How-many-videos-have-been-uploaded-to-YouTube>>.

services, including search and search advertising, and the ensuing competitive advantage, became very difficult to match by Google's competitors.

The possibility of combining users' personal data gathered from several Google services, including YouTube data, for the purposes investigated by the task force described above, was not informed by Google to its YouTube users.¹⁵⁵ Such combination requires informed consent from users to be lawful; yet, as explained above, Google does not obtain informed consent under its Privacy Policy. Therefore, such combination of data is not compliant with the GDPR, and the ensuing competitive advantage in the search and search advertising markets does not follow competition on the merits. Accordingly, Component 1 also arises from this unlawful processing of data.

If the capacity to derive market power from unlawful processing of certain kinds of data can be established, the HEA can be a viable route to tackle anticompetitive behaviour based on the violation of users' privacy¹⁵⁶ and promote the fundamental rights of said users at the same time.

5.2.2 Component 2

Deepened information asymmetries (i.e. widespread consumer confusion and disinformation) and abuses of unequal bargaining power are the central elements of Component 2. Weak competition already reduces the incentives to innovate in privacy-

¹⁵⁵ Dutch DPA (n 106) 62.

¹⁵⁶ The existence of anticompetitive behaviour based on the violation of privacy is becoming acknowledged in the literature. See for example OECD, 'Big Data: Brining Competition Policy to the Digital Era' (2016): "Once example requiring the attention of the competition authority is where the privacy violation is reasonably capable of helping a company attain or maintain its monopoly power (especially in markets with strong data-driven network effects); Eric Clemons, 'Written Evidence Submitted to the House of Lords for the Report "Online Platforms and the Digital Single Market"' (2015) <<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/25630.html>>: '[S]ome anti-competitive activities are subsidized through revenues gained through violation of privacy law [...] rather than through violation of competition law itself.'; Anca D Chirita, 'The Rise of Big Data and the Loss of Privacy' (2016) Durham Law School Research Paper: 'This paper acknowledges that a potential misuse of personal data by dominant undertakings has no precedent line of case law. While its novelty could trigger this particular form of abuse to be affixed with an exotic label, as it sits outside the confines of traditional competition practice under Article 102 TFEU, it is never to be under-estimated by dominant undertakings that actively engage in the sharing, transferring, or selling of such data'; Stucke and Grunes (n 56) 155: 'Companies may use traditional measures (such as mergers, tying, exclusive dealing) to maintain or attain market power. Dominant firms may engage in otherwise illegal practices (such as deceiving the public on their privacy policies) or violating citizens' legal rights regarding the privacy of their personal data'; Monopolkommission (n 79).

friendly services.¹⁵⁷ Weak competition coupled with these elements translate into virtually no pressure on online platforms to offer privacy-friendly services (i.e. to compete on the basis of privacy), as a result of which the latent demand for privacy-friendly services remains unrealised.

To illustrate the existence of Component 2, the Terms of Use of Facebook and Google will be used below as examples.

5.2.2.1 Deepening of Information Asymmetries

Consider some provisions of Facebook's Terms of Use:

“Sharing Your Content and Information

You own all of the content and information you post on Facebook, and you can control how it is shared through your privacy and application settings

[...]

Our goal is to deliver advertising and other commercial or sponsored content that is valuable to our users and advertisers. In order to help us do that, you agree to the following:

1. You give us permission to use your name, profile picture, content, and information in connection with commercial, sponsored, or related content (such as a brand you like) served or enhanced by us. This means, for example, that you permit a business or other entity to pay us to display your name and/or profile picture with your content or information, without any compensation to you. If you have selected a specific audience for your content or information, we will respect your choice when we use it.
2. We do not give your content or information to advertisers without your consent.”¹⁵⁸

Privacy settings are access control mechanisms that enable users to choose which other Facebook users can access their profile information. Users can make this selection from a

¹⁵⁷ According to Harbour and Koslov, ‘Absent pressure from competitors who might provide more attractive alternatives to privacy-prioritizing consumers, a dominant firm might rationally choose to innovate less vigorously around privacy or, perhaps, to dole out privacy-protective technologies to the marketplace more slowly.’ See Pamela Jones Harbour and Tara Isa Koslov, ‘Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets’ (2010) 76 Antitrust Law Journal 769, 795.

¹⁵⁸ Facebook, ‘Terms of Service’ <<https://www.facebook.com/terms.php>>

predefined set of groups (i.e. Friends, Friends of Friends, only me and Public), or customise their own audience. Similarly, application settings are also access control mechanisms that offer a limited number of options regarding app visibility and data collection by app providers. In no part of Facebook's Terms of Use, however, is there any reference to 'advertising settings', which is the access control mechanism under which users can in principle manage settings regarding social ads, sponsored stories, tracking and targeted advertising.¹⁵⁹ Lack of transparency can be observed on the part of Facebook at this stage of the analysis, as concealing these settings makes it really difficult for users to access the options regarding advertising on Facebook based on their personal data.

Facebook's privacy settings offer users significant control regarding access to their data by other Facebook users. However, the situation is diametrically different in respect of the collection and use of data by Facebook and third parties (app providers and advertisers). For example, the advertising settings only allow users to opt-out from appearing in Social Ads, but gives not choice to opt-out from Sponsored Stories. More tellingly, Facebook indicates to its users that they are able to opt-out from tracking and targeted advertising; however, to this effect, it provides links to the websites of the American, Canadian and European Digital Advertising Alliance, thereby adding another layer of opaqueness and making it extremely hard for users to opt-out from the processing of their personal data by advertisers. Consequently, "users are able to choose from several granular settings which regulate access by other individuals, but cannot exercise meaningful control over the use of their personal information by Facebook or third parties. This gives users a false sense of control."¹⁶⁰ Put in other words, the manner in which users are presented with control options regarding their personal data is deceptive.

Furthermore, studies have shown that average users are confused about privacy settings, or do not even know what they are.¹⁶¹ This confusion is compounded by the several changes to which privacy settings are subjected from time to time. For example, in 2010

¹⁵⁹ Given that users by default give Facebook permission to use their names, profile pictures, content, and information for advertising purposes, Facebook offers an opt-out mechanism that fails to meet the requirements for consent to be legally valid. As a result, Facebook also processes its users' personal data without legal basis.

¹⁶⁰ Brendan Van Alsenoy, Valerie Verdoodt, Rob Heyman, Ellen Wauters, Jef Ausloos and Gunes Acar, 'From Social Media Service to Advertising Network: A Critical Analysis of Facebook's Revised Policies and Terms' (2015) Report commissioned by the Belgian Data Protection Authority 22.

¹⁶¹ Alessandro Acquisti and Ralph Gross, 'Imagined Communities: Awareness, Information Sharing, and Privacy on the Facebook', In Danezis G., Golle P. (eds), *Privacy Enhancing Technologies. PET 2006. Lecture Notes in Computer Science, vol 4258*. (Springer, Berlin, Heidelberg 2006).

Facebook introduced certain ‘improvements’ to its privacy settings, after which, under the feature ‘Instant Personalization’, Pandora, Yelp and Microsoft Docs were granted access to users’ accounts by default. In order to change the settings, users had to find the relevant box and deselect it, and then block each site separately in order to make sure that no information was shared through profiles of friends who had not disabled this feature. This complicated process prompted a complaint with the FTC, in which it was argued that “privacy settings are designed to confuse users and to frustrate attempts to limit the public disclosure of personal information that many Facebook users choose to share only with family and friends”.¹⁶² Describing the sentiment about privacy settings and their constant changes, Dan Costa, Executive Editor for PCMag Digital Network, wrote:

“...[N]o one really understands their own privacy settings now. When Facebook changed its settings six months ago, 65 percent of users chose to keep their profiles public. Or, more likely, they just thought they should click “yes” to everything. We have all done it, and that choice will now follow us around the Web—forever.”¹⁶³

Similarly, consider the introduction of Google’s shared endorsements in 2013.¹⁶⁴ Said settings allow Google to include users’ names, photos and comments in ads based on ratings, reviews and posts made by users on Google+ and other services such as YouTube. These shared endorsements may be shown on the more than two million sites that are members of Google’s display advertising network.¹⁶⁵ Google explained that “the only people who see [ads users have endorsed] are the people that you’ve chosen to share that content with”.¹⁶⁶ However, endorsements through some services like Google+ Local are public, so a given user’s endorsement may be used in ads seen all over the Internet. More importantly, Google offered users only an option to opt-out from this ‘advertisement endorsement’ by un-checking a pre-checked ‘Shared Endorsement’ box in their Google account settings, thereby effectively opting-in users to the new advertisement endorsements by default.

¹⁶² EPIC, ‘In the Matter of Facebook, Inc., Complaint, Request for Investigation, Injunction and Other Relief’ (2010) 16 <https://epic.org/privacy/facebook/EPIC_FTC_FB_Complaint.pdf>.

¹⁶³ Dan Costa, ‘Facebook: Privacy Enemy Number One?’ (2010) *PCMag* <<http://www.pcmag.com/article2/0,2817,2362967,00.asp>>.

¹⁶⁴ Google Inc., ‘Shared Endorsements’ <<https://myaccount.google.com/shared-endorsements>>.

¹⁶⁵ This means, for example, that if a user follows a car manufacturer on Google+ or rates an artist on Google Play’s music service, that user’s name, photo and endorsement may show up in ads for that car or artist.

¹⁶⁶ Google Inc., ‘Summary of Changes – Privacy & Terms’ <<https://www.google.com/policies/terms/changes/>>.

In its information page on these new settings, Google stated: “Don't worry, your account's privacy settings are not affected”¹⁶⁷ (emphasis added). However, this is an extremely misleading assertion. The opt-out from advertisement endorsement is clearly a privacy setting in itself, as depending on whether the box is ticked or not the face and name of a given user may be placed in advertisements shown on the webpages of members of Google's display advertising network. The purpose behind that statement was to prompt users to think that no privacy-related implications could arise from this change of settings. As Simon Davis from the Privacy Surgeon noted:

“Claiming that the mechanism is not a privacy setting misrepresents the nature of the changes that have been made, inferring that there are few – if any – privacy implications of the new policy. Given the widespread data sharing that endorsements entail, this is clearly not a true depiction of the changed privacy environment.”¹⁶⁸

According to the Directive on Unfair Commercial Practices, a commercial practice is misleading when it “contains false information and is therefore untruthful or in any way, including overall presentation, deceives or is likely to deceive the average consumer, even if the information is factually correct, and in either case causes or is likely to cause him to take a transactional decision that he would not have taken otherwise”¹⁶⁹ (emphasis added). By giving users a false sense of control over their personal data and misleading users about the privacy implications of a change of settings, Facebook and Google engage in a misleading commercial practice and therefore breach the referred Directive. Additionally, by hiding and/or providing in an unclear and ambiguous manner material information that consumers need to take an informed transactional decision, thereby causing or being likely to cause consumers to take a transactional decision that they would not have taken otherwise,¹⁷⁰ Google and Facebook shape misleading omissions. These findings are supported by the Commission, which has contended that “the use of defaults (choices consumers are presumed to make unless they expressly indicate otherwise) or the provision of unnecessarily complex information may, according to the circumstances of

¹⁶⁷ Liz Klimas, ‘You Might Want to Uncheck This Box If You Don’t Want Your Face in Google Ads’ (2013) *TheBlaze* <<http://www.theblaze.com/news/2013/11/11/you-might-want-to-uncheck-this-box-if-you-dont-want-your-face-in-google-ads/>>.

¹⁶⁸ Simon Davis, on behalf of the Privacy Surgeon, ‘Complaint Lodged with the Data Protection Authorities of Norway, Sweden, Czech Republic, Denmark, France, Spain, Italy, Slovenia, Austria, Belgium, Germany (Federal and Berlin), Lithuania, Netherlands and Poland’ (2013) 6 <<http://www.privacysurgeon.org/blog/wp-content/uploads/2013/11/Google-shared-endorsement-complaint.pdf>>.

¹⁶⁹ Article 6(1) Unfair Commercial Practices Directive.

¹⁷⁰ See Article 7(2) Unfair Commercial Practices Directive.

the case, prove misleading”.¹⁷¹ The effects of these misleading practices and omissions are the preservation of the status quo in online markets: widespread consumer confusion and disinformation, and growing information asymmetries between platforms and users.

5.2.2.2 Unequal Bargaining Power

The unequal bargaining power between platform providers and users prevent even the most informed consumers (those very few who read and understand the privacy policies) from renegotiating the terms and conditions under which online platforms offer their services, as these are offered on a take-it-or-leave-it basis. This unequal bargaining power is directly connected to a competition concern: platforms are able to impose any terms they want on consumers, as they face no competition that could force them to offer more privacy-friendly policies.

Oftentimes, online platforms abuse the unequal bargaining power that benefits them. Take the example of Facebook’s 2010 privacy settings amendment, or Google’s 2013 shared endorsements settings explained above. Taking minimum steps to meaningfully publicise the amendments, both companies forcefully opted-in users to share their personal data to third parties, thereby effectively imposing upon them contractual terms which they could not assess in advance.

Number 1 literal (i) of the Annex to the Directive on Unfair Terms in Consumer Contracts considers unfair a clause “irrevocably binding the consumer to terms with which he had no real opportunity of becoming acquainted before the conclusion of the contract.” In this connection, some have argued that “[h]indering access to contractual terms, e.g., through the use of many hyperlinks leading consumers from one website to another and yet another, or drafting contractual terms in a technical, hard-to-grasp language could be seen as not providing consumers with a ‘real opportunity’ to read the contract”.¹⁷² Accordingly, such clauses allowing Facebook and Google to process personal data for advertising purposes under their opt-out mechanisms, which are imposed upon consumers without an actual opportunity to assess them, can be deemed unfair under the

¹⁷¹ European Commission, ‘Unfair Commercial Practices Guidance’ (n 40).

¹⁷² Marco Loos and Joasia Luzak, ‘Wanted: A Bigger Stick. On Unfair Terms in Consumer Contracts with Online Service Providers’ (2016) 39 *Journal of consumer policy* 63, 87.

abovementioned Directive. This position finds support in the Opinion of AG Mengozzi in *Content Services Ltd v Bundesarbeitskammer*:

“[a]llowing operators in the field of electronic commerce to require their customers to carry out certain actions before they could access the information required under Article 5 of the Directive, even if all they had to do was to use a link shown when a contract was concluded, would risk opening the gates to possible abuses. It is in fact clear that, even though clicking on a hyperlink is an entirely commonplace action, within the capability of any internet user, not all users are in a position to understand, when the contract is concluded, that they need to click on the link in order to be able, should the need arise, to protect their own rights better in the future”¹⁷³ (emphasis added).

5.3 Effects on Competition

As the theory of harm given by the concurrence of Component 1 and Component 2 amounts to a novel abuse,¹⁷⁴ following established case law, actual or likely anticompetitive effects are required.¹⁷⁵ The actual or likely anticompetitive effects must relate to the possible barriers which the dominant firm’s practices may create to the maintenance of the degree of competition existing in the relevant market or markets or the growth of that competition.¹⁷⁶

5.3.1 Component 1

5.3.1.1 Restriction of Competition in one or more Relevant Markets

As explained in Chapters 2 and 3, there are significant economies of scale and scope in data-driven markets such as the search and search advertising markets. Broadly speaking, the more data a search engine has, the better is its ability to render search results and search-based advertising that matches its users’ interests. In turn, learning-by-doing (better quality derived from more searches) entices more users to use the incumbent search

¹⁷³ Opinion of AG Mengozzi in Case C-49/11, *Content Services Ltd v Bundesarbeitskammer* [2012] ECLI:EU:C:2012:419 [33].

¹⁷⁴ See above Section II.5.1.

¹⁷⁵ See for example *AstraZeneca v Commission* (n 80) [112]; Case C-52/09, *Konkurrensverket v TeliaSonera Sverige AB* [2011] ECLI:EU:C:2011:83 [64].

¹⁷⁶ See for example *Deutsche Telekom AG v Commission* (n 83) [252].

engine, thereby giving rise to indirect network effects on the advertising side: the more users a search engine has, the greater will be the number of advertisers wanting to see their products advertised on the search engine, which in turn increases the search engine's advertising revenue.

The locational data unlawfully acquired by Google reinforces the abovementioned data-driven network effects and Google's data advantage, thereby making its competitors' market penetration more difficult. In addition, said data enable the personalisation of search results on the basis of user location. Personalisation of search results consolidates user habits and reduces multi-homing, thereby locking-in consumers on the search market. In turn, as location-based search queries are particularly attractive to advertisers, the provision of location-based search advertising is capable of locking-in consumers on the search advertising market.

Had Google been compliant with data protection law, it would have been able to gather locational data and combine it with other data, including search and search advertising data, only from consumers giving their explicit consent to this effect. Whilst the manner in which the search and search advertising markets would have evolved in a data protection law-abiding scenario is inevitably uncertain, there are certain indications suggesting that there would have been more room for competitors to expand in these markets, and that Google's dominant position would have not been of the same magnitude as that it currently enjoys.

As explained in Chapter 4, consumer surveys are consistent in the sense that a proportion between 60-70% of consumers are concerned about their online privacy.¹⁷⁷ Online privacy concerns encompass locational privacy. For example, in a 2015 Survey Cottrill and Thakuriah found that 34.9% of users agreed, and 16.1% strongly agreed, to the statement "[h]aving your location or travel data collected and stored by a private company (such as Google)" will place your privacy at risk.¹⁷⁸ With over 50% of consumers concerned about their locational privacy, had due notice been given to them, communicating in a proper and clear manner that their locational data could be combined for the provision of search

¹⁷⁷ See Chapter 4 Section II.2.3, discussion on Condition 1.

¹⁷⁸ Caitlin D Cottrill and Piyushimita 'Vonu' Thakuriah, 'Location Privacy Preferences: A Survey-Based Analysis of Consumer Awareness, Trade-off and Decision-Making' (2015) 56 *Transportation Research Part C: Emerging Technologies* 132, 141.

and search advertising services and myriad of other purposes,¹⁷⁹ it is highly likely that some of these consumers would have flocked to competing search engines and Map providers which could have differentiated themselves in terms of the privacy protection offered by their services, thereby becoming more attractive to those consumers who do not like being tracked.

Regrettably, such scenario did not materialise, as Google resorted to unlawful data processing to make its services more attractive, lock-in consumers and hinder competition in the search and search advertising markets. Worse still, the restrictions of competition arising from unlawful processing of location data are not limited to these markets. For example, since the September 2016 version of Android Google's app store (Google Play) constantly tracks users' location, and location tracking cannot be switched off unless location tracking is disabled for all applications on the smartphone. According to one analyst:

“This is because Google Play services pass on your location to installed apps via an API. The store also sends your whereabouts to Google to process. Google doesn't want you to turn this off.

It also encourages applications to become dependent on Google's closed-source Play services, rather than use the interfaces in the open-source Android, thus ensuring that people continue to run Google Play on their devices.”¹⁸⁰

In this way, Google uses users' location to tout apps to them. In this connection, security researcher Mustafa Al-Bassam reported that he “almost had a heart attack” when he walked into a McDonald's and was prompted on his Android phone to download McDonald's app. Al-Bassam checked his privacy settings on his phone and realised that, unbeknown to him, Google Play had monitored his location thousands of times.¹⁸¹ He argued that “Google is encouraging developers to use the Play location API instead of the native Android API, making an open OS dependent on proprietary software.”¹⁸²

¹⁷⁹ See above text accompanying footnote 113.

¹⁸⁰ Kieren McCarthy, ‘Delete Google Maps? Go Ahead, Says Google, We'll Still Track You’ (2016) *The Register* <https://www.theregister.co.uk/2016/09/12/turn_off_location_services_go_ahead_says_google_well_still_track_you/>.

¹⁸¹ *ibid.*

¹⁸² *ibid.*

Accordingly, Google uses consumers' locational data to make its Android OS and Google Play Store more attractive to app developers.

According to Stucke and Grunes, when an undertaking uses “unfair tactics to attain or maintain its dominant position, then [...] using the valuable consumer data from its illegally maintained or attained monopoly is not competition on the merits.”¹⁸³ This conduct seems to be Google's strategy. By engaging in conduct that amounts to Component 1, Google has made more difficult, or even impossible, the entry of competitors into, or the expansion of competitors in, the markets for search, search advertising, licensable smart mobile operating systems and app stores for the Android mobile operating system,¹⁸⁴ thereby reducing the degree of competition existing therein.

5.3.1.2 Leveraging of Market Power and Financial Strength

As a consequence of the roles of data¹⁸⁵, firms with the most data are placed not only in the best position to dominate their core segments, but also to take control over other related fields as they become bigger and bigger.¹⁸⁶

In competitive markets, customers, and not firms, should be supreme, determining what should be produced and in what quantity and quality. If consumers reigned supreme in online markets, there would be availability of products that advance consumers' privacy interests.¹⁸⁷ Sadly enough, that is not the case, as dominant platforms have a significant degree of leeway to engage in practices that further their commercial interests instead of the preferences of their consumers. The collection of personal data in breach of data protection law allows Google and other platforms which engage in that conduct to amass more data than they are legally entitled to, which in turn secures success in their advertising business. For example, Facebook's average revenue per user (ARPU) has increased steadily since 2010, and Google's ARPU in the first quarter of 2014 was at least six times higher than Facebook's. These companies make billions of dollars in profits

¹⁸³ Stucke and Grunes (n 57) 291.

¹⁸⁴ These last two markets have been mentioned by the Commission in ‘Press Release - Antitrust: Commission Sends Statement of Objections to Google on Android Operating System and Applications’ (2016) <http://europa.eu/rapid/press-release_IP-16-1492_en.htm>.

¹⁸⁵ See Chapter 2 Section I.3.3.2.

¹⁸⁶ Stucke and Grunes (n 57) 275.

¹⁸⁷ Ezrachi and Stucke (n 104) 233–234.

from their advertising business,¹⁸⁸ and this trend is only likely to be reinforced if platforms remain unconstrained in their data collection practices. By processing personal data without legal basis, Google and other platforms dismiss the privacy preferences of a great portion of their users, and avail themselves of the violation of their rights to collect more data, fuel data-driven network effects, strengthen their financial power and broaden the universe of industry segments onto which they can expand. As Clemons contended, “some anti-competitive activities are subsidized through revenues gained through violation of privacy law [...] rather than through violation of competition law itself”,¹⁸⁹ and this trend has led to a worrisome scenario:

“A small number of American firms, among them Amazon, Google, and Facebook, now dominate the Internet ecosystem world-wide. Their enormous profits from their core businesses enable them to subsidize almost any new business they wish, from self-driving cars to their own online content. This is allowing them to expand into unrelated businesses, and will effectively block any and all EU firms, including UK firms, from entering any business that the *Big Three* American giants choose to dominate. Moreover, as the experience of Foundem and Yelp and Yahoo Finance demonstrates, the *Big Three* can reclaim almost any online industry they choose to enter.”¹⁹⁰

One of the solutions Clemons proposes to stop this trend is to regulate the use of revenues derived from privacy violations “to fund other business in ways that limit competition”.¹⁹¹

The processing of personal data without legal basis, aside from deriving increased revenues that allow subsidising expansion onto related fields, confers upon the infringing platform the raw material necessary to develop and provide services related to its core business and protect its dominant position at the same time. For example, it was established above that Google collects locational data under its Android OS and Apps for mobile devices without legal basis, and that it uses such unlawfully processed data to strengthen its dominant position in the search and search advertising markets (through the personalisation of search results based on location).¹⁹² However, the benefits of such unlawful processing do not end there. It was also seen above that Google shares such unlawfully processed data with installed apps on users’ Android devices in order to tout

¹⁸⁸ *ibid* 235.

¹⁸⁹ Clemons (n 156).

¹⁹⁰ *ibid*.

¹⁹¹ *ibid*.

¹⁹² See above Sections II.5.2.1.2 and II.5.3.1.1.

apps to them depending on their location.¹⁹³ In this way, it leverages its data-advantage arising from data collected in breach of data protection law onto the markets for licensable smart mobile operating systems and app stores for the Android mobile operating system, since app developers will be more attracted to Android OS and Google Play Store in view of the prospect of being able to reach consumers at the right time based on their location, regardless of their privacy preferences.

The leveraging of a data-advantage arising from unlawful processing of data can be combined with other market power leveraging methods enabled by, for example, the control of informational bottlenecks. Chapter 3 explains the manner in which Google leveraged its market power in general search onto vertical search segments.¹⁹⁴ It is worth recalling that by diverting traffic to its own services, Google was able to amass greater amounts of data of different kinds (including mapping data and local search data) which it could subsequently use to improve its services on the user side and enhance user profiling for advertising purposes, and also to expand onto other related markets such as *inter alia* the markets for personal assistants and self-driving cars.¹⁹⁵ The unlawful processing of data collected under Android OS and Google apps is bound to, on the one hand, reinforce the data-advantage stemming from the leveraging of market power from horizontal to vertical search (as it increases the amount of data Google has at its disposal to improve its services), and on the other hand, make Google's expansion onto related markets seamless. For instance, mapping data is of the essence for the development of autonomous cars.¹⁹⁶ Google already has mapping technology (Google Maps), in addition to the crowd-sourcing app Waze, which provides real-time traffic, accident and police information. With unlawfully collected and processed mapping and locational data of million users, Google is able to improve its mapping technology, thereby gaining the upper hand in the race for the development of self-driving cars. Indeed, this may be one of the reasons why Google's self-driving technology division (Waymo) "is widely

¹⁹³ See above text accompanying footnotes 180-182.

¹⁹⁴ See Chapter 3 Section III.3.

¹⁹⁵ See Chapter 2 Section II.2.

¹⁹⁶ 'We will only be able to have self-driving vehicles on the highway in 2020 with highly accurate maps.'

NTT Data, 'Automotive 4.0 - Sensing the Road Ahead for Tier 1 Suppliers' (2015) 11

<https://emea.nttdata.com/uploads/tx_datamintsnodes/Whitepaper_Automotive_Tier1_final_single.pdf>

considered to be the front-runner among companies developing autonomous technology.”¹⁹⁷

Leveraging of market power chills innovation incentives and deters entry into the affected market segments. In the context of Google’s leveraging of market power from horizontal to vertical search, leaders of vertical search engines such as Yelp and TripAdvisor have stated that they would not have created their companies if Google had engaged from the outset in conduct that became customary afterwards (i.e. reduced traffic to their sites to the benefit of Google).¹⁹⁸

5.3.2 Component 2

The unfair commercial practices in which some platforms engage, and the unfair contractual terms they impose in their privacy policies, have three main effects. Firstly, they deter consumers from attempting to become informed on the privacy-related implications of using a given service. Overwhelmed by the amount of complex and contradictory information contained in privacy policies and terms of use, some users prefer to remain in ‘blissful ignorance’ (“ignorant consumers”).

Secondly, they preserve and enhance consumer confusion regarding online privacy. Some online platforms’ practices are designed to give a false sense of control over the ability of users to choose which type of personal data platforms may or may not collect, process and share, in such a way that some users use a given online service, for example, a social network, in the understanding that their personal data are not transferred to third parties, whilst in practice said data are shared to several ‘business partners’ (“confused consumers”).

Thirdly, they increase the number of users that are resigned to giving up their online privacy. Privacy-savvy consumers will attempt to become aware of the privacy threats posed by certain online services. To this effect, they read and understand the privacy

¹⁹⁷ Annie Palmer, ‘Looks Like Apple Just Killed the iCar’ (2017) *TheStreet* <<https://www.thestreet.com/story/14281269/1/apple-switches-gears-on-its-self-driving-car-ambitions.html>>.

¹⁹⁸ Benjamin Edelman, ‘Does Google Leverage Market Power through Tying and Bundling?’ (2015) 11 *Journal of Competition Law and Economics* 365, 397.

policies of the services they use. But oftentimes, online platforms update their policies and opt-in users for data sharing without meaningful publicity of the update and consent on the part of users. This practice imposes on these savvy users the burden to check periodically the privacy policies of the services they use to verify whether there is any update that has changed their privacy settings. Accordingly, they end up ‘giving up’, as they believe that an undesirable outcome (lack of online privacy) is inevitable, and feel powerless to stop such a scenario (“resigned consumers”).

The creation of these categories of consumers has important ramifications:

5.3.2.1 Restriction of Competition in one or more Relevant Markets

Continuing with the search and search advertising markets, the effects described above enhance consumer inertia (i.e.. consumers sticking to the default options), thereby raising barriers to entry for new products.

Google processes personal data it collects from the array of services it offers free of charge to improve its search engine and personalise the search results. Said data processing is, however, inconsistent with the preferences of many users who want more control over their personal data. Aware of this dissatisfaction, some search engines have attempted to differentiate themselves on the basis of privacy protection (for example DuckDuckGo), but they have failed to make a successful challenge. This rather counter-intuitive phenomenon can be partly explained by a growing number of ignorant, confused and resigned consumers.

Ignorant consumers cannot understand Google’s long and complex privacy policy, and choose to believe that everything is fine with the privacy protection provided by this search engine, even when in reality it is likely to be contrary to their privacy preferences. Confused consumers think everything is fine with Google’s privacy settings, even when in reality Google has opted them in to share personal data. Finally, resigned consumers believe there is nothing they can do about Google’s privacy settings, as a result of which they stick to the default option, to their own detriment (‘status quo bias’).

Additionally, by resorting to misleading commercial practices and omissions and unfair terms in privacy policies, online platforms take advantage of the difficulties consumer suffer to process complex options, thereby facilitating error and bias. Conduct of this type raises the dominant platform's rivals' costs, as the platform's competitors must incur investments to de-bias the market (for instance, through advertising), which is extremely expensive and difficult in two-sided markets where the relevant product's quality is difficult to assess.¹⁹⁹

Especially in markets with network effects and when the relevant product's quality cannot be readily assessed by users, as is the case of search engines and the search and search advertising markets,²⁰⁰ deception and status quo bias may tip the market in favour of the deceptive firm, thereby raising barriers to entry and hindering the growth of competition in said markets.

5.3.2.2 Barrier to the Growth of Privacy-based Competition

By increasing the number of ignorant, confused and resigned consumers, deception with regard to privacy protection has far-reaching consequences going beyond specific relevant markets.

Dominant platforms like Google and Facebook use deception strategically to foreclose privacy protection as an actual facet of competition. Complex and long privacy policies containing deceitful and misleading statements regarding the protection afforded to personal data they offer, in addition to regular policy updates that opt-in users to share their personal data for myriad of undefined purposes, give rise to sufficient widespread confusion as to what is the actual level of privacy protection each platform and online firms in general offer, whether such privacy protection is offered on a permanent basis or is liable to change at any given point in time, and whether it is worth it to endeavour to protect one's personal data or give up to any prospect of online privacy altogether. As a result, there is a "reduced ability on the part of consumers to make informed decisions

¹⁹⁹ Ariel Ezrachi and Maurice E Stucke, 'The Curious Case of Competition and Quality' (2014) University of Tennessee Legal Studies Research Paper No. 256 23

<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2494656##>.

²⁰⁰ Maurice E Stucke and Ariel Ezrachi, 'When Competition Fails to Optimize Quality: A Look at Search Engines' (2016) 18 Yale Journal of Law and Technology 70.

when deciding whether and how to engage with firms”,²⁰¹ which translates into misinformation and distrust in the marketplace: some consumers use online services based on incorrect knowledge motivated by deceit, and other consumers learn that undertakings will prioritise revenues over privacy protection, so they assume there is no privacy protection to begin with.

Therefore, the demand for privacy protection is significantly distorted, and privacy-based competition is undermined. As Vickers has contended:

“Competition cannot work effectively unless consumers are reasonably well informed about the choices before them. Uninformed choice is not effective choice, and without that there will not be effective competition. Informed choice has two elements – knowing what alternatives there are, and knowing about the characteristics of alternative offerings. In particular, what matters is the ability of customers to judge the prospective value for money, for them, of the alternatives on offer”.²⁰²

Uninformed choice and distrust²⁰³ reflect a ‘dysfunctional equilibrium’²⁰⁴ that prevents the emergence of privacy protection as a meaningful parameter of competition. If some consumers make transactional decisions as to whether or not to use an online service based on incorrect information, they cannot make correct assessments as to whether the privacy protection offered by a platform is consistent with their privacy preferences. If another portion of consumers distrusts platforms’ and firms’ claims about the privacy protection they offer, such consumers will not make transactional decisions based on privacy protection.

²⁰¹ CMA (n 1) 106.

²⁰² John Vickers, ‘Economics for Consumer Policy, British Academy Keynes Lecture (29 Oct. 2003)’.

²⁰³ RSS, ‘Public Attitudes to the Use and Sharing of Their Data – Research for the Royal Statistical Society by Ipsos MORI’ (2014)

<http://www.statslife.org.uk/files/perceptions_of_data_privacy_charts_slides.pdf> They found that 65% of respondents said their distrust of online firms’ use of personal data was based on their view that such firms are likely to use their personal data for purposes which they are not told about. .

²⁰⁴ Joseph Farrell, ‘Can Privacy Be Just Another Good’ (2012) 10 J. on Telecomm. & High Tech. L. 251, 259.

6. Exploitative Abuse

6.1 General

Article 102(a) TFEU provides that an abuse of dominant position may consist in “directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions.”

Some competition authorities have begun to consider the imposition of terms of use noncompliant with EU data protection and/or consumer protection law as an exploitative abuse within the meaning of Article 102(a) TFEU. In particular, in 2015 the Monopolkommission suggested that an exploitative abuse of market power may consist in the exploitation of user data to the disadvantage of users.²⁰⁵ Thereafter, in 2016, the Bundeskartellamt commenced abused of dominance proceedings against Facebook, on suspicion of having abused its market power by imposing specific terms of service on the use of data, in violation of Data Protection rules.²⁰⁶ Andreas Mundt, President of the Bundeskartellamt, stated:

“Dominant companies are subject to special obligations. These include the use of adequate terms of service as far as these are relevant to the market. For advertising-financed internet services such as Facebook, user data are hugely important. For this reason it is essential to also examine under the aspect of abuse of market power whether the consumers are sufficiently informed about the type and extent of data collected.”²⁰⁷

Although there is no available information on the course of these proceedings, it is submitted that the Bundeskartellamt’s initiative is a step in the right direction, as it acknowledges a potential negative impact of certain data protection/consumer protection infringements on competition.

²⁰⁵ Monopolkommission (n 79) 114.

²⁰⁶ Bundeskartellamt, ‘Bundeskartellamt Initiates Proceeding against Facebook on Suspicion of Having Abused Its Market Power by Infringing Data Protection Rules’ (2016) <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html>.

²⁰⁷ *ibid.*

6.2 Case Law on Unfair Trading Conditions

To establish the existence of an exploitative abuse based on the imposition of contractual terms on the collection and use of personal data in the dominant platform's terms of use (or privacy policy), such terms of use must be reproachable from a data protection and/or consumer protection law standpoint.²⁰⁸ However, in addition, such terms of use must be also unfair trading conditions within the meaning of Article 102(a) TFEU.

The case law provides guidance and tests to establish under which circumstances trading conditions can be deemed unfair. In *BRT v SABAM*, certain questions on the interpretation of Article 86 EEC (now 102 TFEU) were filed with the CJEU, *inter alia*, whether an undertaking which enjoys a *de facto* monopoly in a Member State for the management of copyrights abuses its dominant position by demanding the global assignment of all copyrights without drawing any distinction between specific categories of such rights.²⁰⁹ The CJEU held that to appraise whether there is abuse in this sense, all relevant legitimate interests must be taken into account in order to ensure balance between the requirement of maximum freedom for the members of the undertaking and the effective management of their rights by the latter.²¹⁰ The CJEU concluded that a dominant undertaking entrusted with the exploitation of copyrights abuses its position when “imposes on its members obligations which are not absolutely necessary for the attainment of its object and which thus encroach unfairly upon a member's freedom to exercise his copyright”²¹¹ (emphasis added).

Similarly, in *GEMA*, an amendment to the dominant undertaking's statutes was challenged as unfair trading terms, as they limited the undertaking's members' freedom to exploit musical works. Basing its decision on *SABAM*, the Commission held that to determine whether the undertaking's statutes constitute an abuse, “the decisive factor is whether they exceed the limits absolutely necessary for effective protection

²⁰⁸ This will be the case when the relevant platform's terms of use are too vague and broad, in such a way that do not give rise to 'informed' consent on the part of data subjects, or when the terms are deceptive and misleading. See generally above Sections II.5.2.1 and II.5.2.2.

²⁰⁹ Case 127/73, *Belgische Radio en Televisie v SV SABAM and NV Fonior (SABAM)* [1974] ECR 313.

²¹⁰ *ibid* [10].

²¹¹ *ibid* [15].

(indispensability test) and whether they limit the individual copyright holder's freedom to dispose of his work no more than need be (equity)."²¹²

In *DSD*, the Commission found a breach of Article 102(a) TFEU as “[u]nfair commercial terms exist where an undertaking in a dominant position fails to comply with the principle of proportionality.”²¹³ When asserting the foregoing, the Commission referred to paragraph 190 of *United Brands*, where the CJEU held that the possibility of a counter-attack by a dominant undertaking must be ‘proportionate’ to the threat, taking into account the economic strength of the undertakings confronting each other. Accordingly, the ‘unfairness’ of the relevant commercial terms seems to be dependent on the economic strength of the dominant undertaking relative to its customers and consumers. Thus, the imposition of unfair terms is a manifestation of the dominant platform’s bargaining power. This is confirmed in *Ahmed Saeed*, where in the context of agreements to fix airline tariffs, the CJEU held that what in principle has the appearance of an agreement could be in reality the imposition of the dominant undertaking’s will on the other party, the agreement just being “the formal measure setting the seal on an economic reality characterized by the fact that an undertaking in a dominant position has succeeded in having the tariffs in question applied by the other undertakings.”²¹⁴

In a similar vein, in *Alsattel*, the allegedly dominant undertaking, which provided rental and maintenance services of telephone installations, drawn up a contract which contained clauses that allowed it to fix unilaterally the prices of supplements to the contract entailed by modifications of said installations, and also provided for the automatic renewal of the contract for a 15-year term if as a result of those modifications the rental was increased in more than 25%. The CJEU held that such clauses would constitute unfair trading conditions prohibited by Article 102 TFEU.²¹⁵ Accordingly, the unilateral imposition of terms that largely benefit the dominant undertaking may constitute unfair trading terms.

Lastly, in *Tetra Pak II*, the dominant undertaking’s contracts contained clauses which *inter alia* forced customers to use only Tetra Pak cartons on its machines and obtain supplies of cartons exclusively from Tetra Pak (tied-sales), allowed Tetra Pak to retain exclusive rights

²¹² Case IV/29971, *GEMA statutes* (1981) [36].

²¹³ Case COMP D3/34493, *DSD* (2001) [112].

²¹⁴ Case 66/86, *Ahmed Saeed Flugreisen and Silver Line Reisebüro GmbH v Zentrale zur Bekämpfung unlauteren Wettbewerbs eV* [1989] ECR 803 [4].

²¹⁵ Case 247/86, *Alsattel v SA Novasam* [1988] ECR 5987 [10].

over modification, maintenance and replacement of spare parts and intellectual property rights over any technical improvements or modifications to the equipment, and provided for the charging of a 'base rental' and of a sliding scale of monthly rental charges according to the number of cartons used. The Commission found that the clauses "had no connection with the purpose of the contract", and had the effect of making the customer totally dependent on Tetra Pak's equipment and services."²¹⁶ The dominant undertaking put forward the argument that the reliability of the packaging equipment for dairies and other uses, as well as the protection of its commercial interests, justified the clauses. The GC held that, whether considered in isolation or together, the clauses were unfair, as they were "wholly unreasonable in the context of protecting public health, and also went beyond the recognized right of an undertaking in a dominant position to protect its commercial interests."²¹⁷ Accordingly, lack of connection with the contract's main purpose, unreasonableness and excessive protection of the dominant undertaking's commercial interests are also factors to consider when trading terms and conditions can be deemed abusive.

6.3 Exploitative Abuse (Unfair Trading Terms) based on Violations of Data Protection and/or Consumer Protection Law

It is submitted that when the terms of use (or privacy policies) of dominant online platforms provide for a *de facto* opt out system in respect of the collection and processing of personal data of users, and/or provide for a mandatory acceptance of terms on the collection and use of personal data for vague and broad purposes (such as 'to improve the customer experience' or 'improve our services') to use the dominant platform's services, and/or contain misleading and deceptive terms that give consumers a false perception of control over their personal data, then such terms of use are unfair trading conditions within the meaning of Article 102(a) TFEU. The exploitative nature of the abuse stems from the fact that the dominant platform would not be able to impose such terms under competitive conditions, and consumers have no choice but to consent to them, contrary to their privacy concerns and preferences.

²¹⁶ Case T-83/91, *Tetra Pak International SA v Commission (Tetra Pak II)* [1994] ECR II-755 [105–107].

²¹⁷ *ibid* [140].

In competition proceedings, one or more decisions passed by data protection and/or consumer protection authorities establishing violations of their respective fields of law in the manner described above would serve as conclusive evidence of the exploitative abuse.

According to O'Donoghue and Padilla, following the case law analysed above, several criteria ought to be met to determine whether specific terms are 'unfair'. Firstly, the parties' legitimate interests must be taken into account. Secondly, it must be determined whether the challenged trading terms and conditions are central to the contract's legitimate object. And thirdly, by balancing the legitimate interests of the parties, it must be established whether the terms and conditions are (i) necessary; that is to say, there are no equally effective alternatives to achieve the legitimate goal with less restrictive or exploitative effect, and (ii) proportionate; that is, the legitimate goal the dominant undertaking pursues must not be outweighed by the exploitative effect on customers and/or consumers.²¹⁸ Other considerations can be also factored in to establish unfairness, such as the bargaining power of the parties, whether the terms are merely the reflection of the undertaking's will imposed on users (or whether the terms are unilaterally imposed and largely benefiting the dominant undertaking), and whether the terms are reasonable.

1) Legitimate Interests of the Parties

The business model of the largest online platforms studied in this work is advertisement-based. Platforms require data to provide the relevant service on the user side (for instance, to display social interactions and search results that are relevant to the user) and also for marketing and advertisement purposes. This for-profit business model, characteristic of the Web 2.0, is a legitimate one.

Users, in turn, have a 'reasonable expectation of privacy' when using 'free' platform services such as a search engine or a social networking site.²¹⁹ When users join Facebook, they wish to share information and communicate with friends. When consumers use Google's search engine, they wish to obtain certain information that is available online. Reasonable users would expect to receive some advertisements, so the services remain

²¹⁸ Robert O'Donoghue and Atilano Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing 2006) 654–655.

²¹⁹ Lilian Edwards and Ian Brown, 'Data Control and Social Networking: Irreconcilable Ideas?', in Andrea M. Matwyshyn (ed), *Harboring Data: Information Security, Law, and the Corporation* (Stanford University Press 2009).

offered at a zero-price. At the same time, users have the legitimate interest to be properly informed on the privacy-related consequences of using the platform service, as well as the steps they can take to protect their online privacy.

2) Terms and Conditions central to the Contract's Objective

Clauses in terms of use and privacy policies that provide for the sharing of personal data to the platform itself and to third parties (application developers and advertisers) are admittedly central to the contract's objective, which can be assumed to be the provision of the relevant platform service to the users of the platform's different sides.

3) Necessity and Proportionality

Terms and conditions that violate the fundamental right of individuals to data protection and/or mislead and deceive consumers can be neither necessary nor proportionate, regard being had to the legitimate interests of the parties.

The for-profit purpose of online platforms must be balanced with the users' reasonable expectation of privacy and legitimate interest in being properly informed and not misled. Data collection and processing by online platforms should be "performed in a way that does not intrude unreasonably upon the data subjects' privacy nor interfere unreasonably with their autonomy and integrity."²²⁰ Terms of use that allow for the placement of cookies after entering a search query under an opt-out mechanism that enables permanent online tracking, the use of content from emails (Gmail) and documents (Google Drive) and locational data (Maps) to display targeted ads, or that give unlimited access to a user profile to service providers other than the platform itself, are inconsistent with the abovementioned reasonable expectation of privacy. In a similar vein, misleading and deceptive terms that provide for opt-out data collection mechanisms in a way that pushes users to unwittingly disclose their personal data and give them a false sense of control over the same are inconsistent with their legitimate interests in being fully informed about the privacy-related consequences of using the platform service.

²²⁰ Aleksandra Kuczerawy and Fanny Coudert, 'Privacy Settings in Social Networking Sites: Is It Fair?', in Simone Fischer-Hübner, Penny Duquenoy, Marit Hansen, Ronald Leenes and Ge Zhang (eds), *Privacy and Identity Management for Life* (Springer 2009) 238.

A due balancing of both parties' interests allows to conclude that terms and conditions that offer an opt-in mechanism for the processing of personal data for specific and properly explained purposes, that allow consumers to set their privacy preferences with ease and in an unambiguous fashion, and that do not push users to disclose information under a false impression of control, can meet the necessity and proportionate criteria. Conversely, it is extremely difficult to assert with credibility that clauses that violate two different branches of law are necessary and proportionate to the attainment of the contract's objective, as they undoubtedly encroach upon users' fundamental rights and legitimate interests in an unfair manner. Moreover, the unfairness is confirmed by the fact that the terms are unilaterally imposed by dominant platforms, that the bargaining power of consumers is virtually zero, and that opt-out mechanisms are concealed and hard to find, to say the least.

7. Criticism of and Arguments in support of the HEA

7.1 Criticism of the HEA

7.1.1 Undue Expansion of the Scope of Article 102 TFEU

Equating data protection and consumer protection infringements with exploitative and exclusionary abuses may be subject to criticism. There is a risk that it could be too easy to find an abuse of dominance by reference to multiple other areas of law, or that violation of any rule that aims to protect consumers could be potentially deemed an abuse of dominant position.²²¹ This risk, however, cannot materialise under the HEA herein proposed.

Undertakings with market power might violate many laws that have little or no connection whatsoever with their position in the market. For example, an agricultural firm might fail to comply with safety or cleanliness standards applicable to food processing or a computer processor firm might violate employment discrimination laws.²²² These violations obviously cannot serve as basis to trigger Article 102 TFEU proceedings, as

²²¹ Costa-Cabral and Lynskey (n 71) 22.

²²² Maurice E Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (2010) 63 SMU L. Rev. 1069, 1114.

they have little or no competitive impact. Article 102 TFEU requires a competition concern to be triggered, for which reason only violations of non-competition laws that are reasonably capable of making a significant contribution to the attaining, maintaining or strengthening of a dominant position can serve as basis to establish an abuse of dominance.

Moreover, Article 102 TFEU seeks to prevent dominant undertakings from abusing their dominant position by *inter alia* raising prices, lowering quality, impairing choice, reducing innovation or adversely affecting other competition parameters. Accordingly, to serve as the basis of Article 102 TFEU proceedings, any violation of non-competition laws must have an adverse impact on any of such parameters.

In the cases analysed above:²²³

- Component 1 consolidates dominance, as a result of which the threat of an effective challenge to the advertisement-based business model of the largest online platforms is mitigated. As a consequence, ‘free’ services which are only financially viable through relentless tracking are likely to remain the norm,
- Component 2 results in ignorant, confused and resigned consumers, which in turn derives into “limited incentives [for undertakings] to compete over the privacy protection they afford to consumer data.”²²⁴

With mitigated threats of entry or challenges to dominant undertakings, there will be limited incentives to compete on the basis of privacy protection, for which reason the likelihood of undertakings innovating in privacy-friendly products and services is reduced, and the emergence and consolidation of this type of competition is effectively prevented. Consequently, innovation is negatively affected. In turn, lack of innovation on the basis of privacy protection entails that the latent demand for privacy-friendly services will remain unrealised, as a result of which consumer choice is effectively limited.

²²³ See above Sections II.5.2.1 and II.5.2.2.

²²⁴ CMA (n 1) 80.

7.1.2 Flexibility and Coordination Concerns

One of the main virtues of competition enforcement is its flexibility to adapt to new challenges. This is confirmed *inter alia* by the fact that the list of abuses under Article 102 TFEU is non-exhaustive,²²⁵ and that competition enforcement tools can be adapted to address new economic realities and business models.²²⁶ *Ex-ante* regulation inherently lacks this flexibility, as legislative processes are commonly slow and rigid to adapt to market developments.²²⁷

By being based on the violation of *ex-ante* provisions (i.e. data protection and consumer protection rules), the abuse prosecuted under the HEA will be capped by the scope of such provisions, thereby depriving Article 102 TFEU enforcement of its inherent flexibility. If dominant firms find ways to circumvent the data protection and consumer protection laws whilst still being able to cause the harmful effects on competition explained above,²²⁸ the HEA is rendered irresponsive and impractical.

In addition, coordination between competition, data protection and consumer protection authorities lies at the core of the HEA. However, coordination costs under this approach may be high. In particular, there is a risk that cohesion between the agencies fails to be achieved, that they become rivals and fight for prestige or other reasons,²²⁹ or that they cannot agree upon basic goals, enforcement targets or the distribution of tasks and functions.

7.1.3 The Existence of Alternatives

The HEA may be also criticised on the basis that there are enforcement alternatives that may be more effective or efficient.

²²⁵ See above footnote 83 and accompanying text.

²²⁶ See Chapter 3 Sections I and II.

²²⁷ Rosa Lastra, 'The Governance Structure for Financial Regulation and Supervision in Europe' (2003) The London Financial Regulation Seminar, London School of Economics and Political Science 14 <<http://www.lse.ac.uk/fmg/documents/specialPapers/2003/sp149.pdf>>.

²²⁸ See above Section II.5.3. This could be potentially a case where a dominant firm convinces a DPA that it only processes data in an anonymised form, when in practice the data in question allows for the identification of individuals, or when a dominant firm drafts its privacy policies in clear, concise and comprehensible terms, but degrades the functionality of the settings which enable its users to have control over their personal data.

²²⁹ Annetje Ottow, 'Erosion or Innovation? The Institutional Design of Competition Agencies - A Dutch Case Study' (2014) 2 Journal of Antitrust Enforcement 25, 27.

- a) Law violations can be addressed under their respective bodies of law

It is commonly argued that competition law should address competition concerns only.²³⁰ Implicit in this assertion is the idea that laws must be enforced to address issues within their respective remits, without interaction with other overlapping fields, as opposed to the HEA. The parallel enforcement of the competition, data protection and consumer protection laws, irrespective of each other, is a logical and simpler alternative to address the deficiencies of online markets. Indeed, upon the entry into force of the GDPR, DPAs may impose fines of up to 4% of the infringing undertaking's annual turnover, and the imposition of high fines under data protection law enforcement may serve as effective deterrence. In addition, some consumer protection agencies are actively tackling dominant firms. The Italian Autorità Garante della Concorrenza e del Mercato (AGCM) recently imposed a €3 million fine on WhatsApp for unfair and aggressive commercial practices in connection with an amendment to its Terms of Services under which the messaging app forced consent for the sharing of its users' personal data with its parent company Facebook.²³¹ Consumer protection enforcement of this kind is likely to increase transparency and raise consumer awareness as to online service providers' data collection practices.

However, the parallel enforcement of the competition, data protection and consumer protection laws has thus far proven ineffective, as shown by the existence of the vicious cycle.²³² It is submitted that the HEA is a superior option, as it acknowledges the interrelated nature of competition, data protection and consumer protection concerns in online markets and proposes a course of action accordingly.

- b) The use of a 'stand-alone' abuse under the principle of fairness

A competition agency may intervene using a 'stand-alone' abuse which is not based on existing *ex-ante* regimes. For example, a competition agency may argue that a dominant

²³⁰ Massimiliano Kadar, 'European Union Competition Law in the Digital Era' (2015) SSRN paper 11 <<https://ssrn.com/abstract=2703062>>.

²³¹ Autorità Garante della Concorrenza e del Mercato, 'Sanzione Da 3 Milioni Di Euro per WhatsApp, Ha Indotto Gli Utenti a Condividere I Loro Dati Con Facebook' (2017) <<http://www.agcm.it/stampa/comunicati/8754-ps10601-cv154-sanzione-da-3milioni-di-euro-per-whatsapp,-ha-indotto-gli-utenti-a-condividere-i-loro-dati-con-facebook.html>>.

²³² See above Section I.

undertaking's deceptive behaviour that distorts consumer demand and preserves consumer inertia and status quo bias is contrary to the principle of fairness in Article 102 TFEU and may amount to an abuse of dominance position if the other operational requirements of such provision are met.

The notion of fairness is increasingly making inroads in competition policy debates. Both Competition Commissioner Margrethe Vestager and former head of the US DOJ Antitrust Division Renata Hesse have recently argued that competition law is concerned with fairness.²³³ Some have characterised this assertion as influenced by populism and the significance of fairness for competition enforcement as nil, since fairness is a “morally laden construct, frequently associated with what is good, right or just, and influenced by other values and beliefs in society.”²³⁴ However, competition provisions such as Articles 101(3) and 102 TFEU contain explicit references to fairness (‘fair share’ of efficiencies and ‘unfair prices and trading conditions, respectively’), for which reason dismissing fairness’s significance for competition enforcement in its entirety appears problematic from a normative standpoint. If translated into specific, clear rules to be applicable, the fairness rationale may give competition authorities a viable alternative to combat the effects on competition described above.²³⁵

c) Use of ex-ante regulation without collaboration between agencies

Another approach may be to rely on *ex-ante* regulation to identify an abuse, but without collaboration with other law enforcement agencies. For example, Costa-Cabral and Lynskey argue that data protection may act as a ‘normative yardstick’ to assess the quality of a privacy policy.²³⁶ Under their approach, if a dominant undertaking exploitatively reduces the quality of its privacy policy, “consumers will be worse off than had competitive levels prevailed – which, when there is competition on data use policy, must normatively be set at compliance with data protection law.”²³⁷ Accordingly, they equate

²³³ See Renata B Hesse, ‘And Never the Twain Shall Meet? Connecting Popular and Professional Visions for Antitrust Enforcement’ (2016) <<https://www.justice.gov/opa/speech/acting-assistant-attorney-general-renata-hesse-antitrust-division-delivers-opening>>; Margrethe Vestager, ‘Competition for a Fairer Society’ (2016) <https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/competition-fairer-society_en>.

²³⁴ Mauritis Dolmans and Wanjie Lin, ‘Fairness and Competition Law: A Fairness Paradox’ (2017) No.4 Conurrences Review 3.

²³⁵ See above Section II.5.3.

²³⁶ Costa-Cabral and Lynskey (n 71) 21.

²³⁷ *ibid.*

data protection infringements to degradation of quality of a dominant undertaking's privacy policy, which may amount to an exploitative abuse under Article 102(a) TFEU. This may be a more practical and cost-effective way of using *ex-ante* regulation to inform the scope and severity of the abuse. The problem with this approach is that it requires actual competition on the basis of privacy protection, and as explained in Chapter 4, at present times, such type of competition is minimal.²³⁸ In addition, the data protection infringement must be necessarily established by a DPA (as competition authorities lack the competence to do so), for which reason some degree of collaboration between agencies may be inevitable.

7.2 Arguments in support of the HEA

7.2.1 Joint Action by Law Enforcers is Capable of Giving Rise to Synergies

A HEA is likely to achieve results that further the goals of the different fields of law involved. If Article 102 TFEU proceedings are commenced on the basis of violations of data protection and/or consumer protection law as described above, not only would competition law be ensuring that competition is not distorted, but it would also improve the effectiveness of the right to data protection and act in furtherance of the benefit and interests of consumers.

Indeed, the prospect of Article 102 TFEU proceedings based on the anticompetitive effect of violations of data protection law would deter dominant platforms from persevering in their strategy of violating user's data protection rights to strengthen their positions. If dominant firms thus far have not been persuaded to abide by data protection law because the competitive gains from infringing such law outweigh the detrimental effects of data protection law enforcement, then the possibility of facing abuse of dominance proceedings based on the anticompetitive effect of such infringements is likely to 'convince' them to set their data processing practices at law-abiding levels. The same applies to Article 102 TFEU proceedings based on violations of consumer protection rules. The prospect of facing such proceedings is capable of persuading dominant platforms not to engage in unfair commercial practices and to draft their privacy policies

²³⁸ See Chapter 4 Section II.2.3.

in a more transparent, simple and less vague manner. In this way competition law would be contributing to the reduction of information asymmetries between firms and users.

7.2.2 The Constitutional Landscape after the Treaty of Lisbon supports a HEA

The Treaty of Lisbon brought about three main changes in the EU legal order that support the implementation of the HEA.

Firstly, under Article 6(1) TEU, the Charter became legally binding, vested with the same legal value as the EU Treaties. This means that the right to data protection (Article 8 of the Charter) and the requirement of a high level of consumer protection (Article 38 of the Charter) are of constitutional value.²³⁹

The Charter is addressed to the institutions and bodies of the Union and also to the Member States when implementing EU law.²⁴⁰ Whilst the horizontal effect of the Charter has been contested, because it is addressed explicitly to the aforementioned bodies only, it is increasingly accepted. The horizontal effect of the Charter in respect of the right to data protection follows from the CJEU reasoning in *Google Spain*,²⁴¹ “where it assessed Google’s responsibilities as a data controller in light of the rights to data protection and privacy, thereby ensuring the horizontal application of these rights.”²⁴² In addition, in *Benkharbouche*,²⁴³ Lord Dyson concluded that EU Charter provisions which reflect general principles of EU law, such as a requirement of high level of consumer protection, do have horizontal direct effect. Therefore, the right to data protection and the requirement of a high level of consumer protection are “binding on the Commission when exercising any of its competences, and on private parties when acting within the scope of EU law.”²⁴⁴

Secondly, the Treaty of Lisbon introduced broad policy-linking provisions of ‘general application’: Article 7 TFEU provides that “[t]he Union shall ensure consistency between its policies and activities, taking all of its objectives into account”, and Articles 8-17

²³⁹ This constitutional nature is ratified by Articles 12 and 16(1) TFEU.

²⁴⁰ Article 51 of the Charter.

²⁴¹ Case C-131/12, *Google Spain SL and Google Inc v Agencia Española de Protección de Datos (AEPD) and Mario Costeja González* [2014] ECLI:EU:C:2014:317.

²⁴² Costa-Cabral and Lynskey (n 71) 28.

²⁴³ *Benkharbouche v Sudanese Embassy* [2015] EWCA Civ 33 [33].

²⁴⁴ Costa-Cabral and Lynskey (n 71) 28.

TFEU set out the matters that ought to be taken into consideration in all the activities and policies of the EU in furtherance of Article 7 TFEU. Notably, Article 12 TFEU, provides that “[c]onsumer protection requirements shall be taken into account in defining and implementing other Union policies and activities”, and Article 16 TFEU provides that “[e]veryone has the right to the protection of personal data concerning them.”

These provisions can be regarded as an obligation on the part of Union bodies and institutions to take due account of the public policies stated in them when implementing a specific Union policy (for instance, competition policy).²⁴⁵ In this way, when enforcing Article 102, “the Commission and the courts should make efforts to select the option that maximizes the policy aim stated in the integration clause, while preserving the competitive process.”²⁴⁶

Thirdly, the Lisbon Treaty added the achievement of a ‘social market economy’ as one of the goals of the EU, and relocated Article 3(1)g TEC in Protocol 27 on “the Internal Market and Competition”.

The CJEU has historically interpreted Article 102 TFEU in a teleological fashion, in light of the goals and tasks of the EU. Article 3(1)g TEC enshrined as one of the Union’s goals “a system ensuring that competition in the internal market is not distorted”. The CJEU has used this provision since *Continental Can* as the legal basis to apply Article 102 TFEU to unilateral conduct that harms the effective competitive structure and therefore consumers in an indirect way. Put in other words, Article 102 TFEU has been interpreted in a manner such as to achieve one of the Union’s aims: a system of undistorted competition.

However, the new Article 3 TEU merged old Articles 2 and 3 TEC into a comprehensive provision which includes the Union’s economic and non-economic objectives and tasks, eliminating any reference to ‘undistorted competition’. In turn, Article 3(1)g TEC was relocated in Protocol 27 on “the Internal Market and Competition”. As a result, competition law is no longer an objective of the Union, but rather an integral part of the

²⁴⁵ See Opinion of AG Gelhoed in Case C-161/04, *Austria v Parliament and Council* [2006] ECR I-7183 [59–60].

²⁴⁶ Ioannis Lianos, ‘Some Reflections on the Question of the Goals of EU Competition Law’ [2013] CLES Working Paper Series 3/2013 46.

internal market goal: the internal market necessarily “includes a system ensuring that competition is not distorted”, in such a way that the former cannot exist without the latter. The ‘competition’ objectives of the Union, on the other hand, are now much clearer than under the TEC, and consist of the establishment of an internal market with an aim to achieve a ‘highly competitive social market economy’.

A teleological interpretation of Article 102 TFEU under the new constitutional landscape should acknowledge the inexorable link of competition law with the aforementioned objectives: Protocol No. 27 clarifies that market integration constitutes the specific aim of competition law,²⁴⁷ which means that after ensuring that competition in the internal market is not distorted, the competition rules should be interpreted in a manner such as to attain a ‘highly competitive social market economy’.

The concept of ‘social market economy’ lacks definition in the Treaty of Lisbon. The concept was coined in 1946 by Alfred Müller-Armack, and is deeply rooted in Ordoliberalism.²⁴⁸ Social market economy has been understood as “a compromise between the free market and social welfare requirements”,²⁴⁹ as well as “the expression of a philosophy committed to a humane society which aims at the dignity, well-being, self-determination, encouragement, freedom and responsibility of all individuals.”²⁵⁰ Whilst the origin, history and legacy of the social market economy is beyond the scope of this thesis, it is worth noting here that, as it currently stands, “the social market economy concept is fortunately not embedded in any clear-cut ideology and thus remain open to modern interpretations.”²⁵¹ Accordingly, the concept of ‘social market economy’ should be taken as an interpretative notion that envisions an internal market that is not of a purely economic nature; rather, it combines elements of a socio economic system, including elements of social justice and respect for fundamental rights,²⁵² and considers the EU as

²⁴⁷ *ibid* 42.

²⁴⁸ Christian Joerges and Florian Rödl, “Social Market Economy” as Europe’s Social Model? (2004) EUI Working Paper Law No. 2004/8 12.

²⁴⁹ Václav Šmejkal, ‘The Social Market Economy Goal of Article 3(3) TEU – A Task for EU Law?’ (2016) Charles University in Prague Faculty of Law Research Paper No. 2015/III/1 1.

²⁵⁰ EPP Statutory Congress, ‘The Social Market Economy in a Globalised World’ (2009) 2
<http://www.epp.eu/files/uploads/2015/11/The_Social_Market_Economy_in_a_Globalised_World.pdf>.

²⁵¹ Šmejkal (n 249) 4.

²⁵² Allan Rosas and Lorna Armati, *EU Constitutional Law: An Introduction* (Bloomsbury Publishing 2012) 1998.

“some form of holistic polity with competence to act, or at least to consider, all aspects of the welfare of its citizens”,²⁵³ as listed in Article 3(3) TEU and Articles 8-17 TFEU.

Based on the above, it can be argued that when the competition rules are enforced in situations where data protection and consumer protection policies are also at stake, competition law should be enforced in a manner that fulfils such policies to the greatest extent possible, in a manner consistent with Articles 7, 12 and 16 TFEU, while ensuring the effectiveness of the competitive process at the same time. This conclusion is reinforced by the fact that the right to data protection and the requirement of a high level of consumer protection are binding upon EU bodies and institutions (including the Commission) when carrying out their duties, including law enforcement. A teleological interpretation of Article 102 after the Lisbon Treaty further supports the aforementioned conclusions: after ensuring that competition is not distorted, Article 102 TFEU should be applied in light of the goal of a highly competitive social market economy, taking into consideration all aspects of the welfare of EU citizens, including the right to data protection and a high level of consumer protection. This outcome is precisely what the HEA achieves.

7.2.3 Promotion of Different Goals Pursued by Article 102 TFEU

Probably as a consequence of the Chicago School’s ‘antitrust revolution’ in the US in the 70-80s, consumer welfare is commonly accepted as the main objective of competition law. The review of the enforcement approach to Article 102 TFEU launched by the Commission in 2005 and the ensuing 2009 Guidance on Enforcement Priorities were marked by a preponderant focus on consumer welfare.²⁵⁴

However, the goals of competition law, and of Article 102 TFEU in particular, are broader than just consumer welfare. In the case law on Article 102 TFEU of the European Courts said provision has been used to protect a system of undistorted

²⁵³ Lianos (n 246) 43.

²⁵⁴ See for example European Commission, Guidance on the Commission's Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings [2009] OJ C 45/7, para 19.

competition in several ways, such as by protecting equality of opportunity,²⁵⁵ small firms,²⁵⁶ the structure of the market and thus competition as such,²⁵⁷ the effective competition structure,²⁵⁸ market integration,²⁵⁹ freedom of choice,²⁶⁰ economic efficiency²⁶¹ and consumer welfare.²⁶²

As a natural consequence of this plurality of objectives, conflicts are likely to arise. In particular, a tension exists between ‘economic freedom’ or ‘freedom to compete’²⁶³ and consumer welfare. Economic freedom can be traced back to the Ordoliberal school of thought, under which competition policy’s aim is “the protection of individual economic freedom of action as a value in itself, or vice versa, the restraint of undue economic power.”²⁶⁴ Ordoliberalism is rooted in humanist values rather than economic efficiency, and its proponents believed that open access to the market is the best control of private and political power.²⁶⁵ Conversely, consumer welfare takes a neo-classical position, and is concerned with the achievement of economic efficiencies²⁶⁶ that benefit consumers.

Tension between economic freedom and consumer welfare has been observed in the literature.²⁶⁷ For example, if competitors that are not yet as efficient as the dominant undertaking are protected, such protection benefits equality of opportunity and competition as such (which are subsumed in the principle of economic freedom), but not

²⁵⁵ Case C-49/07, *Motosykletistiki Omospondia Ellados NPID (MOTOE) v Elliniko Dimosio* [2008] ECR I-4863 [51].

²⁵⁶ The president of the CJEU at the time of the *Commercial Solvents* judgment confirmed in a speech that the court aimed at protecting “a small firm, rather than free competition for the benefit of consumers.” Valentine Korah, ‘The interface between intellectual property and antitrust: the European experience’ (2002) 69 *Antitrust Law Journal* 801, 808.

²⁵⁷ See Opinion of AG Kokott in Case C-95/04, *British Airways plc v Commission* [2007] ECR I-2331 [68].

²⁵⁸ Case 6-72, *Europemballage Corporation and Continental Can Company Inc v Commission of the European Communities* [1973] ECR 215 [26].

²⁵⁹ Joined cases C-468/06 to C-478/06, *Sot Lelos kai Sia EE and others v GlaxoSmithKline AEVE Farmakeftikon Proionton* [2008] ECR I-7139 [68].

²⁶⁰ Case C-202/07, *France Télécom SA v Commission* [2009] ECR p I-02369 [112].

²⁶¹ *Konkurrensverket v TeliaSonera Sverige* (n 175) [21–24].

²⁶² Opinion of AG Jacobs in Case C-7/97, *Oscar Bronner GmbH & Co KG* [1998] ECR I-7791 [58].

²⁶³ These concepts mean that the economic system should allow all individuals the freedom to participate in the marketplace unimpaired by the power of other companies, and encompass several objectives such as the protection of equality of opportunities and small firms, the protection of the structure of the market and competition as such, as well as the protection of the effective competitive structure.

²⁶⁴ Wernhard Möschel, ‘The Proper Scope of Government Viewed from an Ordoliberal Perspective: The Example of Competition Policy’ (2001) 157 *Journal of Institutional and Theoretical Economics JITE* 3, 157.

²⁶⁵ Misuse of private power and its conversion into political power led to the rise of Nazi Germany. Ordoliberals wanted to make sure that course of events would not happen again.

²⁶⁶ See Chapter 1 footnote 46 on the different types of efficiencies.

²⁶⁷ Liza Lovdahl Gormsen, ‘The Conflict between Economic Freedom and Consumer Welfare in the Modernisation of Article 82 EC’ (2007) 3 *European Competition Journal* 329.

necessarily consumer welfare, as no economic efficiencies to the benefit of consumers may arise from that protection. In these cases, the question that follows is which goal should be the prioritised over the other.

One of the advantages of the HEA is that it renders such tension irrelevant. Indeed, by punishing violations of data protection law that confer an unlawful anticompetitive advantage, raise barriers to entry and strengthen the dominant position of the infringer, equality of opportunity, the structure of the market and thus competition as such, and therefore ‘freedom to compete’ are promoted.

In turn, by punishing violations of consumer protection law that deepen information asymmetries, promote consumer ignorance and confusion with regard to the protection of their personal data, and therefore prevent the emergence of privacy protection as a meaningful competition parameter, consumer welfare is enhanced. Consumer choice and innovation are two of the main components of consumer welfare. Choice does not have value in itself, but if consumers have different tastes, then consumer welfare increases if they can choose from a larger number of products that satisfy their preferences.²⁶⁸ By the same token, consumers may benefit and consumer welfare may increase when new products and services are introduced, provided that there is actual or potential demand for them.²⁶⁹ The joint enforcement of competition and consumer protection law is capable of increasing consumer awareness of online firms’ data collection practices, and consequently of the impact they have on users’ online privacy. With 60-70% of consumers concerned about the protection of their personal data, increased awareness of online firms’ data collection practices will provide undertakings the necessary incentives to innovate on the basis of privacy protection, and with privacy-friendly products and services ultimately launched on the marketplace, consumer choice will be expanded. Last but not least, the possibility to prosecute exploitative abuses in the manner herein proposed²⁷⁰ provides additional incentives for online firms to draft their privacy policies in a law-abiding fashion, which may increase consumer awareness of data collection practices even further, thereby contributing to more pressure for the introduction of privacy-friendly services.

²⁶⁸ Federico Etro and Ioannis Kokkoris, ‘Toward an Economic Approach to Article 102 TFEU’, in Federico Etro and Ioannis Kokkoris (eds), *Competition Law and the Enforcement of Article 102* (OUP 2010) 25–26.

²⁶⁹ *ibid* 26.

²⁷⁰ See above Section II.6.

III. Conclusions

Some online markets, such as *inter alia* the markets for online search, search advertising and social networking services, are characterised by weak competition, widespread consumer ignorance and confusion about the consequences the use of a given platform service entails for users' privacy, and consumers concerned about the protection of their online privacy but unable to act upon it as a result of information asymmetries, bounded rationality and the unavailability of viable privacy-friendly products and services. Thus far, the parallel enforcement of the competition, data protection and consumer protection laws has proven ineffective to remedy this state of affairs.

This Chapter argues that, whereas the substantial assessments of the aforementioned laws should not be merged and confused with each other, said laws can nevertheless be enforced in a joint and harmonious fashion. One way to do this is through the HEA this Chapter advances. Under this approach, certain violations of data protection and consumer protection laws amount to an abuse of dominant position, as they enable an online platform to attain, maintain or strengthen such position, and to squash the latent demand for privacy-friendly alternatives that may threaten their advertising-based business model. In addition, some of such infringements exploit consumers directly, as they have no choice but to agree to the platform's privacy policy even when said policy is unclear, deceptive and inconsistent with their privacy preferences.

In particular, systematic breaches of data protection law by online platforms, aside from causing a detrimental effect on the right to data protection of individuals, allow them to gather, process and derive value from greater amounts of data than they are legally entitled to, thereby raising barriers to entry. In addition, the profits derived from excessive extraction of data in violation of data protection law, and the data unlawfully collected and processed, can be used to subsidise and develop data-intensive products in neighbouring markets. Put in other words, violations of data protection law enable dominant platforms to leverage their market power onto adjacent markets.

In turn, privacy policies and certain commercial practices that contravene consumer protection rules widen the informational gap existing between platforms and users, fuelling consumer ignorance as to the violation of their fundamental rights. With the

overwhelming majority of consumers uninformed or confused about the data protection standards of dominant platform providers, there is little pressure to offer privacy-friendly services, despite that the same consumers are concerned about their privacy online and want more control over their personal data. As the CMA has noted: “if consumers are limited in their ability to make informed decisions and to challenge firms over the use of their data, this may mean that firms have limited incentives to compete over the protection they afford to consumer data”.²⁷¹

By resorting to violations of data protection and consumer protection rules as the basis of abuse of dominance proceedings, significant synergies between the fields of law involved are achieved, and the coherence of the EU legal system is enhanced.

²⁷¹ CMA (n 1) 106.

Conclusions

This thesis demonstrates that the effective enforcement of Article 102 TFEU remains more important than ever to prevent dominant firms from abusing their position and exploiting consumers in digital markets. In view of the internal growth and expansion of the most popular platforms and their incentive and ability to engage in abusive practices, the enforcement of Article 102 TFEU is bound to gain more significance.

Proposals for a sector-specific *ex ante* regulation to be applied in conjunction with competition law to address the perceived problems of digital markets and the excessive market power some online platforms enjoy should be discarded. Online platforms have brought about rapid technological progress and disruptive innovation, as a result of which new markets have been created, mature markets have been subjected to dramatic change, and incumbents have been displaced. Regulatory proposals, especially when they are the result of growing appeals from incumbents (think of proposals of telecom operators against OTT operators), are likely to protect established players under the excuse of the protection of competition.

In addition, an *ex-ante* regulation applicable to online platforms would require an accurate definition of online platforms. This endeavour may prove impossible. Chapter 2 explains that online platforms share some common features, which are network effects, the provision of ‘free’ services on one side of the market, and the collection and processing of user data. However, commonalities end there. Chapter 3 analyses in depth the most successful and popular online services - search engines, social networks and online marketplaces - defining product markets for each of them. This analysis demonstrates that, aside from the provision of free services to one group of consumers, the similarities between them are rather superficial. For example, search engines attract users by offering the most ‘relevant’ results; social networks are attractive to users depending on the size of their user base, their orientation (for example, for general entertainment purposes like Facebook or professional purposes like LinkedIn) and their functionalities; and online marketplaces are more attractive depending on the comprehensiveness of their product catalogues or their specialisation in certain products, as well as for their feedback and review systems. On the ‘paid’ side of the market, search engines and social networks offer

advertising services which vary greatly in terms of format and intended purposes, whereas online marketplaces charge sellers a given fee for listings and consummated transactions, and resort to advertising as an additional (yet secondary) revenue stream.

Chapter 3 also assesses whether Google, Facebook and eBay hold a dominant position in any of the product markets on which they compete. The assessment of dominance shows that these market leaders derive market power from different sources, and that some online markets are more competitive than others. For example, data is of the essence for the provision of online search and social networking services (and their corresponding advertising services), and providers with the greatest capacity to collect and process data in huge volumes, from different sources and at great speed reinforce their position in their core markets and are able to expand onto related markets. Direct network effects are absent in online search markets, whereas they are perhaps the most significant driver of success for social networks (on the user side). The markets for these services do not perform well from a competition standpoint, as their incumbents are insulated from competitive pressure and the threat of a successful challenge from existing market players or a potential entrant is minimal. Conversely, markets for online marketplaces perform somewhat better as a result of a greater number of important players and the combined price competition pressure stemming from online and offline sources. In addition, whilst data is indeed important for online marketplaces, as it enables them to boost their sales through product recommendations, their matchmaking services can be nevertheless provided without data. In these markets, indirect networks effects play a more preponderant role for a platform's success.

An *ex-ante* regulation is bound to be incapable of accounting for the subtleties above, let alone of subsuming them into one definition. If passed, it will be overly inclusive, its effects will be long-lasting, and the administrative burden arising from it will likely reduce the innovation that competition policy seeks to promote.

Similarly, proposals for lax enforcement of competition law in online markets should not be heeded, as they rest on shaky assumptions. Firstly, there is no evidence that concentrated markets are more conducive to innovation. Secondly, there is no evidence that dominant undertakings abstain from engaging in procompetitive conduct by fear of liability under Article 102 TFEU. Thirdly, arguments about the social costs arising from

false positives being higher than those arising from false negatives are misplaced, as the error-cost framework on which they are based rests on several assumptions which are not fulfilled in online markets. Fourthly, and more importantly, the hands-off approach fails to take into account the significance of two recent phenomena: the rise of platforms and the collection and processing of data for commercial purposes.

Chapter 2 discusses the organisation of online markets' leaders as platforms, and their common features, such as network effects. In particular, it explains that the combination of strong network effects, switching costs and locked-in consumers can lead markets to a tipping point. Once a market has tipped, the ensuing dominant position of the market leader is likely to be durable, contrary to the Schumpeterians' assertions of market power being fleeting in dynamic industries. Take the example of Facebook. By taking advantage of strong network effects, it became the leader of the market for social networks, and no company, even Google with its tremendous data advantage and financial strength, has been able to launch a successful challenge.

In addition, platforms commonly offer free services on one side of the market they serve. Free services have been construed as signalling the absence of a market and consumer harm. However, in reality, zero-priced products only mean that the supplier's business model is more complex than usual, and that it is making money somewhere else. Zero-priced products and services force competition authorities to come to grips with the relevant platform's business proposition, and adapt their analytical tools accordingly. Network effects and free services can lead to concerns of great complexity and severity which warrant a vigilant role on the part of competition authorities.

The collection and processing of data by online platform pose additional concerns. Thus far, there is significant uncertainty as to whether and how data raises barriers to entry and confer market power. Too much emphasis has been placed on whether or not data is widely available, and this emphasis misses the point. Data is an asset, but not a regular one. Its competitive significance depends to a great extent on its volume, variety and velocity, as well as on learning-by-doing and spill-overs among the different sides of a platform's multisided market. The interaction of data-driven network effects with traditional network effects is capable of leading to a 'virtuous cycle' which may prove impossible to overcome by competitors. Take again the example of Facebook. One the

user side, direct network effects increase the value of the platform to other users, thereby attracting more users and therefore more traffic and data. Data enables the social network provider to carry out more experiments to render more ‘relevant’ social network interactions and consequently enhance the attractiveness of the platform to users. In turn, the economies of scale, scope and speed derived from more users and more data enable the platform to improve ad-targeting and therefore increase advertising revenues, and at the same time, to develop new data-intensive products and services that will increase the platform’s data collection capabilities. More users and perfected ad-targeting are bound to attract more advertisers, as a result of which advertising revenues will go up even further. Last but not least, the data the platform collects can be processed and reprocessed for different purposes on any side of its multisided market, and even adjacent markets (such as the market for personal assistants). These competitive dynamics raise novel, complex and alarming concerns of market power which deserve close attention on the part of competition authorities.

Proponents of the hands-off approach also argue that competition authorities are bound to make costly errors when intervening in online markets, since traditional market definition tools are unsuited for digital industries, no inferences about market power can be made based on market shares, and traditional competition analysis has an excessive focus on price to account for the competitive dynamics of online industries characterised by disruptive innovation. Whilst these observations are correct, they fall short to justify light competition enforcement in digital markets. Chapter 3 departs from the ‘traditional’ excessive focus on price of competition analysis, and demonstrates that online markets can be readily defined, and dominance therein can be properly assessed. The key is to be aware of the challenges that digital markets pose for market definition and market power assessments, and to use the relevant analytical tools in flexible manner. Moreover, Chapter 3 also discusses several data-driven abusive practices in which dominant platforms may, and sometimes do, engage. If digital markets are left unchecked, abuses of market power are bound to arise. Flexible, careful and vigorous enforcement of Article 102 TFEU remains the most important mechanism to ensure that dominant firms do not distort the competitive process in online markets.

The problems arising from data-driven competition, however, are not restricted to competition policy. Specifically, problems stem from the fact that the user data online

firms routinely collect and process is mainly personal data, the protection of which is a fundamental right enshrined in the Charter. Thus, a natural tension arises: insofar as the main way to compete online is through the collection and processing of data to provide and improve existing free services, develop new ones and improve ad-targeting, there will be increased pressure to collect and process more personal data. However, this increased pressure will inevitably result in increased tracking and widespread surveillance in violation of individuals' rights to data protection. Chapter 4 demonstrated how data-driven competition results in reduced privacy and lack of control over personal data, increased potential of data theft, automated decision-making which narrows individuals' choices, amplified information asymmetries and new avenues for discrimination.

Recognising the interrelated nature of the dynamics of competition in online markets and online privacy harms, some approaches have been put forward to bring privacy concerns to the core of competition analysis. Chapter 4 discussed the three most intellectually sound approaches advanced in the literature, and explained the reasons why their implementation would not be sound competition policy. Firstly, the delineation of 'markets for data' entails defining a fictional market, as there are no observable transactions between firms supplying and consumers purchasing data. As such, it is likely to bring more confusion to an already complex issue. Secondly, the 'integrationist approach', which advances the idea that the consumer welfare standard should be interpreted in light of data protection considerations, is capable of leading to a counter-intuitive scenario where, in competition proceedings, agreements, conduct or mergers can be punished on non-competition grounds. This scenario would cause legal uncertainty, inconsistency, subjectivity and unpredictability in the enforcement of competition law. Thirdly, the 'privacy as a non-price parameter of competition' approach, although theoretically correct, is inconsistent with actual consumer behaviour in online markets. In spite that the majority of consumers (60%-70%) are concerned about the protection of their personal data and want more control over it, consumers do not make their consumption decisions based on the privacy protection afforded by the services they use, and consequently online firms, save very limited exceptions, do not compete on the basis of data protection.

The fact that privacy has not yet emerged as a meaningful parameter of competition despite that the majority of consumers are concerned about their online privacy shows

that online markets are performing poorly. Consumers concerned about their online privacy and demanding more control over their personal data should be heeded. Contending that consumers do not really care about the protection of their personal data because they continue using privacy-invasive online products and services is equivalent to arguing that people do not care about potential plain crashes because they continue flying. However, online markers are bound to continue performing poorly, failing to satisfy the latent demand for online privacy-friendly products and services, firstly, as a result of a combination of data protection and consumer protection regulatory failures that arise before competition enforcement, and secondly, as a consequence of certain data protection and consumer protection law infringements by online platforms through which they avail themselves of those regulatory failures in order to maintain and strengthen their dominant positions.

On the data protection front, the processing of personal data requires a legal basis. The most common legal basis to which online platforms resort is user consent, which must be specific and informed. This in practice means that data protection law imposes on consumers the highly cumbersome task of reading and understanding all the privacy policies of all the online services they use, as amended from time to time, in order to assess whether the data collection practices of the firms offering such services are consistent with their privacy preferences. This task may fit well with consumer protection policy's notion of the average consumer, 'who is reasonably well informed and reasonably observant and circumspect.' However, there are significant consumer protection regulatory failures preventing consumers to make an informed and reasoned decision as to the use of online services. Information asymmetries are a first obstacle. Whilst undertakings know everything about their data collection practices and the value they can extract from data, some consumers struggle to understand even what a privacy policy is. In addition, privacy policies are notoriously lengthy and drafted in complex terms which most consumers are incapable of comprehending. Furthermore, consumers are affected by bounded rationality that limits their ability to search for and achieve the best outcome. The interaction between these regulatory failures leads to a scenario where, of those 60%-70% of consumers that are concerned about the protection of their personal data, a big portion of them chooses to remain oblivious of undertakings' data collection practices, and proceed to 'tick the box' without engaging with the relevant privacy policy. Other consumers attempt to understand the privacy-related implications arising from the use of

online services, but fail to overcome the informational gap and their bounded rationality. Finally, the last portion of those consumers is able to defeat these obstacles, just to realise that pervasive online tracking is almost unavoidable, and that there are no viable choices to protect their online privacy. As a result, there is no pressure on dominant firms to innovate in privacy-friendly services, in spite of the latent demand for them. This lack of pressure, in the end, is a manifestation of a competition issue: weak competition in online markets that enables dominant platforms to coerce consumers into accepting privacy policies that are inconsistent with their privacy preferences. Accordingly, competition, data protection and consumer protection issues interact in a loop (the ‘vicious cycle’).

Dominant platforms benefit from the regulatory failures above. They know that the status quo is characterised by lack of consumer engagement with their privacy policies, and that they can rely on an essentially fictional consent to process personal data. But some platforms take a step further to reinforce their positions, increase their profitability and protect their business model. Aware of the lack of consumer engagement with privacy policies, they can process personal data without meeting the requirements for consent to be valid, and without other legal bases, as a result of which they are able to process more data than they are legally entitled to, thereby fuelling data-driven network effects and consequently deriving an unlawful competitive advantage capable of strengthening their dominance. At the same time, they have an incentive to preserve consumer ignorance and confusion, as in this way they can keep the pressure to develop and introduce privacy-friendly options at bay, thereby ensuring that the stream of data will continue flowing. To this effect, they include unfair terms in their privacy policies or otherwise engage in unfair commercial practices in violation of EU consumer protection rules.

The law infringements explained above are, considered in isolation, only reproachable under data protection and consumer protection law, respectively. Yet, such infringements have a combined competition-distorting effect capable of deriving into the strengthening of dominant positions and the exploitation of consumers. Accordingly, this thesis proposes the creation of a new category of abuse of dominance based certain violations of said fields of law that distort the competitive process.

However, to address such a complex scenario with many layers of interrelated issues falling within the remit of different branches of law, a coherent and sound approach to

law enforcement is required. This thesis proposes a ‘holistic enforcement approach’. Under this approach, the substantial assessments of the different branches of law involved remain independent from and irrespective of each other. This entails that proposals to collide competition assessments with data protection considerations should be disregarded. However, this approach advances the enforcement of these branches of law in a joint and harmonious manner. To this effect, the holistic enforcement approach requires that one or more law infringements be established by data protection and consumer protection authorities in final decisions, acting within the bounds of their competencies. Thereafter, in Article 102 TFEU proceedings, such infringements are linked to the infringer’s dominant position, the exclusion of competitors and/or the exploitation of consumers.

The holistic enforcement approach is conceived as one route to address the concerning tendencies affecting digital markets (i.e. weak competition, violation of fundamental rights and deepened information asymmetries) in a manner that enhances the coherence of EU law. By acknowledging that certain infringements of data protection law and consumer protection law can distort the competitive process and cause the exclusion of competitors and exploitation of consumers, Article 102 TFEU proceedings can act in furtherance of the promotion of competition, the protection of the fundamental right to data protection of individuals and the interests of consumers.

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